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FILE 'REGISTRY' ENTERED AT 19:09:54 ON 17 FEB 2004
L1      8 S 67-64-1 OR 78-93-3 OR 107-87-9 OR 591-78-6 OR 110-43-0 OR 111

FILE 'CAPLUS, WPIDS, CABA, CROPB, CROPU' ENTERED AT 19:11:12 ON 17 FEB
2004

FILE 'REGISTRY' ENTERED AT 19:11:19 ON 17 FEB 2004
      SET SMARTSELECT ON
L2      SEL L1 1- CHEM :      74 TERMS
      SET SMARTSELECT OFF

FILE 'CAPLUS, WPIDS, CABA, CROPB, CROPU' ENTERED AT 19:11:20 ON 17 FEB
2004
L3      288726 S L2/BI
L4      50771 S BEE OR BEES OR HONEYBEE OR HONEYBEES OR APIS OR APINAE OR BOM
L5      384 S L3 AND L4
L6      99 S L5 AND (MITE OR MITES OR VARROA OR ACARAPIS OR ACARI? OR PES
L7      85 DUP REM L6 (14 DUPLICATES REMOVED)

=> d que
L1      8 SEA FILE=REGISTRY 67-64-1 OR 78-93-3 OR 107-87-9 OR 591-78-6
      OR 110-43-0 OR 111-13-7 OR 106-35-4 OR 123-19-3
L2      SEL L1 1- CHEM :      74 TERMS
L3      288726 SEA L2/BI
L4      50771 SEA BEE OR BEES OR HONEYBEE OR HONEYBEES OR APIS OR APINAE OR
      BOMBINAE OR EUGLOSSINAE
L5      384 SEA L3 AND L4
L6      99 SEA L5 AND (MITE OR MITES OR VARROA OR ACARAPIS OR ACARI? OR
      PEST? OR PARASIT?)
L7      85 DUP REM L6 (14 DUPLICATES REMOVED)

=>

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All Reviewed
2/17/04

=> d 1-85 bib ab kwic

L7 ANSWER 1 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-523150 [49] WPIDS
DNC C2003-140747

TI Composition used as **acaricide** for modulating **acarid**
infestation of colony of **bees** comprises alkene with odd number
of carbon atoms from 15-23 e.g. cis-6-heptadecene and excipient, diluent
or carrier.

DC C03
IN DELLA VEDOVA, G; MILANI, N; NAZZI, F
PA (UYUD-N) UNIV UDINE
CYC 102

PI WO 2003043416 A2 20030530 (200349)* EN 7p
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU
MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SC SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU
ZA ZM ZW

ADT WO 2003043416 A2 WO 2002-IB5447 20021125

PRAI IT 2001-UD193 20011123

AB WO2003043416 A UPAB: 20030731

NOVELTY - Composition comprises at least one alkene of cis configuration
with an odd number of carbon atoms from 15-23 and at least one excipient,
diluent or carrier. The alkene comprises cis-6-heptadecene,
cis-7-heptadecene, cis-8-heptadecene, cis-9-heptadecene,
cis-6-pentadecene, cis-7-pentadecene, cis-8-pentadecene or
cis-9-pentadecene.

ACTIVITY - **Acaricide**.

MECHANISM OF ACTION - None given.

USE - Used for modulating **acarid** (preferably of varroidae
family e.g. **Varroa** destructor) infestation of a colony of
bees and for preventing or treating **mite** infestation of
bees (claimed).

In a test for evaluating inhibition of reproduction of **varroa**
destructor in natural cells by a composition containing cis-8-heptadecene,
the natural cells were deposited into **acetone** (1 µl)
containing cis-heptadecene (100 ng) (test) and **acetone** alone
(control). The natural cells were capped with honeycomb taken from
infested hives and injected by the solutions. After 10 days the honeycomb
was inspected. The number of offspring per **varroa** female in the
(test)/(control) was found to be 3.2/3.8.

ADVANTAGE - The composition exhibits effective reduction, prevention,
inhibition, discouragement, disinfection or other amelioration of
mites in **bee** colonies.

Dwg.0/0

TI Composition used as **acaricide** for modulating **acarid**
infestation of colony of **bees** comprises alkene with odd number
of carbon atoms from 15-23 e.g. cis-6-heptadecene and excipient, diluent
or carrier.

AB . . .
one excipient, diluent or carrier. The alkene comprises cis-6-heptadecene,
cis-7-heptadecene, cis-8-heptadecene, cis-9-heptadecene,
cis-6-pentadecene, cis-7-pentadecene, cis-8-pentadecene or
cis-9-pentadecene.

ACTIVITY - **Acaricide**.

MECHANISM OF ACTION - None given.

USE - Used for modulating **acarid** (preferably of varroidae
family e.g. **Varroa** destructor) infestation of a colony of
bees and for preventing or treating **mite** infestation of

bees (claimed).

In a test for evaluating inhibition of reproduction of **varroa** destructor in natural cells by a composition containing cis-8-heptadecene, the natural cells were deposited into **acetone** (1 µl) containing cis-heptadecene (100 ng) (test) and **acetone** alone (control). The natural cells were capped with honeycomb taken from infested hives and injected by the solutions. After 10 days the honeycomb was inspected. The number of offspring per **varroa** female in the (test)/(control) was found to be 3.2/3.8.

ADVANTAGE - The composition exhibits effective reduction, prevention, inhibition, discouragement, disinfection or other amelioration of **mites** in **bee** colonies.

Dwg.0/0

TECH.

alkene or a composition or a distribution system comprising a spray device or a distribution system comprising sugar-based, feed for **bees**.

TT

TT: COMPOSITION **ACARID** MODULATE **ACARID** INFESTATION
COLONY **BEE** COMPRISE ALKENE ODD NUMBER CARBON ATOM CIS
EXCIPIENT DILUTE CARRY.

L7 ANSWER 2 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 2003:202620 CABA

DN 20033182567

TI Effect of fluvalinate on activity of honey **bee** individuals

AU Ali, M. A. M.

CS Plant Protection Department, Faculty of Agriculture, Ain Shams University, Shoubra El-Khiema, Cairo, Egypt.

SO Arab Universities Journal of Agricultural Sciences, (2003) Vol. 11, No. 2, pp. 817-826. 22 ref.

Publisher: Faculty of Agriculture, Ain Shams University. Cairo

ISSN: 1110-2675

CY Egypt

DT Journal

LA English

SL Arabic

ED Entered STN: 20031209

Last Updated on STN: 20031209

AB Twenty concentrations of fluvalinate (Apistan) with 98% purity were assayed at 23[deg]C under laboratory and field conditions between June and September 2002 in Fayoum Governorate, Egypt to examine its toxic effect on honey **bees** (*Apis mellifera*). In the field trial, dilution of 20 mg fluvalinate/ml **acetone** was topically applied to evaluate its effect on queen acceptance, mating ratio, superceding and colony vigour. In the experiment, virgin queens were divided into 3 different groups: (1) **acetone** only as untreated control, (2) 20 mg fluvalinate/ml and (3) queens receiving treatment only after mating. The data showed that fluvalinate concentrations of 1-20 mg/ml caused 10-100% mortality of workers, while concentrations of 0.05-50 mg/ml caused mortality of 11.43-100% mortality of drones. Concentrations of 30-100 and 20-80 mg/ml caused 30-100 and 20-100% mortality for queens 24 and 48 hours after treatments, respectively. The LC50s were 3.768, 4.064 and 53.447 for worker, drone and queen honey **bees**, respectively. In the field trial, the queen acceptance was 80, 70 and 75% and queen mating was 65, 60 and 75%. Queen superceding was 0, 40 and 6.67% for groups 1, 2 and 3, respectively. Brood areas were 2296.77, 2445.96 and 2447.17 cm² for groups 1, 2 and 3, respectively, and the numbers of frames with brood and those covered with **bees** were 2.38, 2.63 and 2.56 for the former and 5.00, 5.42 and 5.38 for the latter for groups 1, 2 and 3, respectively.

TI Effect of fluvalinate on activity of honey **bee** individuals.

AB . . . laboratory and field conditions between June and September 2002 in Fayoum Governorate, Egypt to examine its toxic effect on honey **bees** (*Apis mellifera*). In the field trial, dilution of

20 mg fluvalinate/ml **acetone** was topically applied to evaluate its effect on queen acceptance, mating ratio, superceding and colony vigour. In the experiment, virgin queens were divided into 3 different groups: (1) **acetone** only as untreated control, (2) 20 mg fluvalinate/ml and (3) queens receiving treatment only after mating. The data showed that. . . 24 and 48 hours after treatments, respectively. The LC50s were 3.768, 4.064 and 53.447 for worker, drone and queen honey **bees**, respectively. In the field trial, the queen acceptance was 80, 70 and 75% and queen mating was 65, 60 and. . . 2447.17 cm² for groups 1, 2 and 3, respectively, and the numbers of frames with brood and those covered with **bees** were 2.38, 2.63 and 2.56 for the former and 5.00, 5.42 and 5.38 for the latter for groups 1, 2. . .

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; North Africa; Africa; Mediterranean Region; Middle East; Developing Countries

CT **acaricides**; drone honey **bees**; fluvalinate; honey **bees**; queen honey **bees**; social insects; toxicity; worker honey **bees**

ORGN **Apis mellifera**

L7 ANSWER 3 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1

AN 2003:684128 CAPLUS

DN 139:360023

TI Simultaneous determination of carbamate and organophosphorus **pesticides** in **honeybees** by liquid chromatography-mass spectrometry

AU Fernandez, M.; Pico, Y.; Manes, J.

CS Laboratori de Bromatologia i Toxicologia, Facultat de Farmacia, Universitat de Valencia, Valencia, 46100, Spain

SO Chromatographia (2003), 58(3/4), 151-158

CODEN: CHRGB7; ISSN: 0009-5893

PB Friedrich Vieweg & Sohn Verlagsgesellschaft mbH

DT Journal

LA English

AB The potential of liq. chromatog.-mass spectrometry (LC-MS) was studied for the simultaneous detn. of 6 teen carbamate and organophosphorus **pesticides** in **honeybees** using a traditional sample prepn. protocol based on **acetone** extn. and dichloromethane partitioning. The performances of both atm. pressure chem. ionization (APCI) and electrospray (ES) interfaces were compared. APCI offered better sensitivity and specificity for a higher range of **pesticides**. Limits of quantification were from 0.01 to 0.17 mg kg⁻¹, at which recoveries obtained were between 64 and 93%, except for pirimicarb that was at 13%, with relative std. deviations ranging from 7 to 20%. Fenitrothion, fenoxycarb, methiocarb and phoxim were found in **bees** from Valencian Community beehives at concns. between 0.03 and 3.75 mg kg⁻¹.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Simultaneous determination of carbamate and organophosphorus **pesticides** in **honeybees** by liquid chromatography-mass spectrometry

AB The potential of liq. chromatog.-mass spectrometry (LC-MS) was studied for the simultaneous detn. of 6 teen carbamate and organophosphorus **pesticides** in **honeybees** using a traditional sample prepn. protocol based on **acetone** extn. and dichloromethane partitioning. The performances of both atm. pressure chem. ionization (APCI) and electrospray (ES) interfaces were compared. APCI offered better sensitivity and specificity for a higher range of **pesticides**. Limits of quantification were from 0.01 to 0.17 mg kg⁻¹, at which recoveries obtained were between 64 and 93%, except for pirimicarb that was at 13%, with relative std. deviations ranging from 7

to 20%. Fenitrothion, fenoxycarb, methiocarb and phoxim were found in bees from Valencian Community beehives at concns. between 0.03 and 3.75 mg kg⁻¹.

ST carbamate organophosphorus **pesticide honeybee** LCMS ESI
APCI
IT Chemical ionization mass spectrometry
(atm.-pressure; simultaneous detn. of carbamate and organophosphorus
pesticides in honeybees by LC-MS with APCI and ESI)
IT **Pesticides**
(organophosphorus; simultaneous detn. of carbamate and organophosphorus
pesticides in honeybees by LC-MS with APCI and ESI)
IT Electrospray ionization mass spectrometry
Honeybee
(simultaneous detn. of carbamate and organophosphorus
pesticides in honeybees by LC-MS with APCI and ESI)
IT 55-38-9, Fenthion 63-25-2, Carbaryl 122-14-5, Fenitrothion
463-77-4D, Carbamic acid, derivs. 944-22-9, Fonofos 1563-66-2,
Carbofuran 2032-65-7, Methiocarb 2104-96-3, Bromophos methyl
2642-71-9, Azinphos ethyl 2921-88-2, Chlorpyrifos ethyl 3383-96-8,
Temephos 6923-22-4, Monocrotophos 13171-21-6, Phosphamidon
14816-18-3, Phoxim 23103-98-2, Pirimicarb 41198-08-7, Profenofos
72490-01-8, Fenoxycarb
RL: ANT (Analyte); POL (Pollutant); ANST (Analytical study); OCCU
(Occurrence)
(simultaneous detn. of carbamate and organophosphorus
pesticides in honeybees by LC-MS with APCI and ESI)

L7 ANSWER 4 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 2002:675818 CAPLUS
DN 137:181110
TI Compositions for control of **parasitic mites** of honey
bees and other hive **pests**
IN Erickson, Eric H.; Degrandi-Hoffman, Gloria; Becker, Christian G.;
Whitson, Roy S.; Deeby, Thomas A.
PA The United States of America, as Represented by Secretary of Agriculture,
USA
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002067914	A1	20020906	WO 2002-US5986	20020228
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2003044443	A1	20030306	US 2002-87161	20020227
	EP 1372623	A1	20040102	EP 2002-723256	20020228
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
PRAI	US 2001-272097P	P	20010228		
	US 2002-87161	A	20020227		
	WO 2002-US5986	W	20020228		
AB	The present invention is directed to methods and compns. for use to control parasitic mites of honey bees ,				

particularly **Varroa mites**. In one aspect, the invention is directed to control of **parasitic mites** of honey **bees** wherein the active ingredient is a miticidally effective amt. of a selected ketone $\text{CH}_3(\text{CH}_2)_x\text{CO}(\text{CH}_2)_y\text{CH}_3$ ($x = 0-5$, $y = 0-2$), or 1-heptanol, Et butyrate, benzaldehyde, heptaldehyde, or d-limonene. In second aspect, the invention is directed to control of **parasitic mites** of honey **bees** wherein the active ingredient is an effective attractant amt. of 2-heptanone. The attracted **mites** are then trapped or otherwise removed from the locus of the **bees**. The present invention is also directed to methods and compns. which include 2-heptanone to control hive invading **pests** of honey **bees**.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Compositions for control of **parasitic mites** of honey **bees** and other hive **pests**

AB The present invention is directed to methods and compns. for use to control **parasitic mites** of honey **bees**, particularly **Varroa mites**. In one aspect, the invention is directed to control of **parasitic mites** of honey **bees** wherein the active ingredient is a miticidally effective amt. of a selected ketone $\text{CH}_3(\text{CH}_2)_x\text{CO}(\text{CH}_2)_y\text{CH}_3$ ($x = 0-5$, $y = 0-2$), or 1-heptanol, Et butyrate, benzaldehyde, heptaldehyde, or d-limonene. In second aspect, the invention is directed to control of **parasitic mites** of honey **bees** wherein the active ingredient is an effective attractant amt. of 2-heptanone. The attracted **mites** are then trapped or otherwise removed from the locus of the **bees**. The present invention is also directed to methods and compns. which include 2-heptanone to control hive invading **pests** of honey **bees**.

ST honeybee **Varroa acaricide** insecticide
attractant hive **pest** heptanone

IT Achroia grisella
Aethina tumida
Galleria mellonella
Tropilaelaps
(compns. for control in honey **bee** hive of)

IT **Varroa**
(compns. for control of)

IT **Acaricides**
Honeybee
Insect attractants
Insecticides
Pesticide formulations
(compns. for control of **parasitic mites** of honey **bees** and other hive **pests**)

IT **Pesticides**
(controlled-release; for control of **parasitic mites** of honey **bees** and other hive **pests**)

IT Attractants
(**mite**; compns. for control of **parasitic mites** of honey **bees** and other hive **pests**)

IT **Pesticides**
(slow release; for control of **parasitic mites** of honey **bees** and other hive **pests**)

IT 67-64-1, Acetone, biological studies 100-52-7,
Benzaldehyde, biological studies 105-54-4, Ethyl butyrate
106-35-4, 3-Heptanone 110-43-0,
2-Heptanone 111-13-7, 2-
Octanone 111-70-6, 1-Heptanol 111-71-7, Heptaldehyde

123-19-3, 4-Heptanone 591-78-6,

2-Hexanone 5989-27-5

RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(compns. for control of **parasitic mites** of honey

bees and other hive **pests**, contg.)

IT 7534-94-3, Isobornyl methacrylate 42978-66-5, Tripropyleneglycol diacrylate

RL: MOA (Modifier or additive use); USES (Uses)

(in compns. for control of **parasitic mites** of honey

bees and other hive **pests**)

L7 ANSWER 5 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2002-489749 [52] WPIDS

CR 2003-540076 [51]

DNC C2002-138996

TI Composition for attracting insect e.g. carpenter ants comprises a precondial mycelium of an entomopathogenic fungal species.

DC C05 D16

IN STAMETS, P E; STAMETS, P

PA (STAM-I) STAMETS P; (STAM-I) STAMETS P E; (MYCO-N) MYCO PESTICIDES LLC

CYC 97

PI WO 2002028189 A2 20020411 (200252)* EN 133p

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ

NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK

DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR

KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO

RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001096679 A 20020415 (200254)

US 2002146394 A1 20021010 (200351) 45p

US 6660290 B1 20031209 (200381)

ADT WO 2002028189 A2 WO 2001-US31339 20011003; AU 2001096679 A AU 2001-96679 20011003; US 2002146394 A1 CIP of US 2000-678141 20001003, US 2001-969456 20011001; US 6660290 B1 US 2000-678141 20001003

FDT AU 2001096679 A Based on WO 2002028189

PRAI US 2001-969456 20011001; US 2000-678141 20001003; US 2001-678141 20011001

AB WO 200228189 A UPAB: 20031216

NOVELTY - A composition (I) comprises a precondial mycelium (II) of an entomopathogenic fungal species (III).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) preparation of (I) involving selecting (III) and cultivating (II) of (III) on a substrate;

(2) a lubricating and inoculating composition comprising a lubricating oil and an entomopathogenic fungal inoculant. The inoculant is (II), conidia and/or post-conidial mycelium;

(3) attracting insects by providing (II) to a targeted insect locus;

(4) controlling targeted insect by treating a locus of the insect with (II) to cause mortality among the targeted insects;

(5) controlling social insect **pests** comprising selecting (III) from *Beauveria bassiana* and/or *Metarhizium anisopliae* and placing (II) at the locus of the social insect **pests**, to achieve insect mortality; and

(6) a composition for attracting an insect comprising an extract of (II).

ACTIVITY - Insecticide; **Pesticide**.

No biological data given.

MECHANISM OF ACTION - None given.

No biological data given.

USE - For attracting social **pest** and beneficial insects

(particularly termites, ants, wasps and **bees**) e.g Camponotus carpenter ants, Calomyrmex, Opisthopsis, Polyrhachis ants, pharaoh ants, Argentine ants, pavement ants, odorous house ants, Atta, Acromyrmex leaf cutter ants, Coptotermes, Reticulitermes, Cryptotermes, Ahamitermes, Allodotermes, Amitermes, Anacanthotermes, Amitermitinae, Archotermopsis, Armitermes, Calcaritermes, Capritermes, Cornitermes, Cubitermes, Drepanotermes, Globitermes, Glyptotermes, Heterotermes, Hodotermes, Hodotermopsis, Incisitermes, Kalotermes, Labiotermes, Macrotermes, Macrotermitinae, Marginitermes, Mastotermes, Microcerotermes, Microhodotermes, Nasutitermes, Nasutitermitinae, Neotermes, Odontotermes, Ophiotermes, Parastylotermes, Paraneotermes, Parrhinotermes, Pericapritermes, Porotermes, Prorehinotermes, Psammotermes, Rhinotermes, Rhynchotermes, Rugitermes, Schedorhinotermes, Serritermes, Syntermes, Stolotermes, Termitogeton, Termes, Termitinae, Termopsis, Zootermopsis, Sphecoidea, Vespoidea wasps, Apoidea **bees**, Camponotus modoc, Camponotus vicinus, Camponotus ferrugineus, Camponotus floridanus, Camponotus pennsylvanicus, Camponotus herculeanus, Camponotus variegatus, Camponotus abdominalis, Camponotus noveboracensis, Solenopsis invicta, Solenopsis richteri, Monomorium pharonis, Coptotermes formosanus, Reticulitermes flavipes, Reticulitermes virginicus, Reticulitermes speratus, Reticulitermes hesperus, Reticulitermes tibialis, Reticulitermes lucifugus, Reticulitermes santonensis, Cryptotermes domesticus, C. cubioceps, Kalotermes flavicollis, Incisitermes minor, Mastotermes darwiniensis, bark, sap, wood-boring beetles (for e.g. mountain pine beetle, spruce beetle, red turpentine beetle, black turpentine beetle, southern pine beetle, Douglas fir beetle, engraver and Ips beetles and other sap beetles in the family Nitidulidae, powderpost beetles, false powderpost beetles, deathwatch beetles, oldhouse borers and/or Asian long-horned beetles), American, German, Surinam, brown-banded, smokybrown, Asian cockroaches, grasshoppers, locusts, crickets including mole cricket, Mormon crickets, beetles, beetle grubs, beetle larvae including Colorado potato beetle and other potato beetles, Mexican bean beetle, Japanese beetle, cereal leaf beetle, darkling beetle, pasture scarabs, Scarabaeidae, Gypsy moth, Gypsy moth larvae, diamondback moths, codling moth, Douglas fir tussock moth, western spruce budworm, grape berry moths, flies, fly larvae, large centipedes, shield centipedes, millipedes, European corn borers, Asiatic corn borers, velvetbean caterpillar, other caterpillars, larvae of the Lepidoptera, whiteflies, thrips, melon thrips, western flower thrips, aphids including Russian wheat aphid, spider **mites**, mealybugs including citrus mealybug, solanum mealybug, boll weevils, black vine weevils, European pecan weevils, mosquitoes, wasps, sweet potato whiteflies, silverleaf whiteflies, cotton fleahoppers, spittle bug, corn earworm, American bollworm, armyworms, fall armyworm, southern armyworm, beet armyworm, yellowstriped armyworm, black cutworm, tobacco hornworm, tobacco budworm, sugar cane froghopper, rice brown planthopper, earwigs, loopers including cabbage looper, soybean looper, forage looper, celery looper, cabbageworms, European cabbageworm, tomato pinworm, tomato hornworm, leafminers, cotton leafworm, corn rootworm, garden webworm, grape leafroller, melonworm, pickleworm, achemon sphinx, sweetpotato hornworm, whitelined sphinx, lygus bugs, chinch bugs and false chinch bugs, sow bugs, pill bugs, citrus rust **mite**, pill wood lice, wheat cockchafer, white grubs, cockchafers, springtails, storage **pests** and/or soil insects, Isopoda, Diplopoda, Chilopoda, Symphyla, Thysanura, Collembola, Orthoptera, Dermaptera, Anoplura, Mallophaga, Thysanoptera, Heteroptera, Homoptera, Lepidoptera, Coleoptera, Diptera, Siphonaptera, Thysanoptera, **Acarina**, Arachnida (all claimed).

The substrate forms a protective covering for electrical cables and wires, computer cables, telephone wires, microwave equipment and/or optical networks. (II) is used as a prophylactic, preventative treatment.

ADVANTAGE - The compositions are environment friendly. The use of conidia germination for infection is avoided. (II) can be packaged in

spoilage proof or sealed packages. The composition acts as food and attractant and/or as an ingested or contact insecticide, palatable enough that the insects consume it even in the presence of competing food sources. The time and expense for raising conidial stage mycelium and/or separating conidia is avoided.

Dwg.0/3

AB

by treating a locus of the insect with (II) to cause mortality among the targeted insects;

(5) controlling social insect **pests** comprising selecting (III) from *Beauveria bassiana* and/or *Metarhizium anisopliae* and placing (II) at the locus of the social insect **pests**, to achieve insect mortality; and

(6) a composition for attracting an insect comprising an extract of (II).

ACTIVITY - Insecticide; **Pesticide**.

No biological data given.

MECHANISM OF ACTION - None given.

No biological data given.

USE - For attracting social **pest** and beneficial insects (particularly termites, ants, wasps and **bees**) e.g. *Camponotus* carpenter ants, *Calomyrmex*, *Opisthopsis*, *Polyrhachis* ants, pharaoh ants, Argentine ants, pavement ants, odorous house ants, *Atta*, *Acromyrmex* leaf. . . *Pericapritermes*, *Porotermes*, *Protrichotermes*, *Psammotermes*, *Rhinotermes*, *Rhynchotermes*, *Rugitermes*, *Schedorhinotermes*, *Serritermes*, *Syntermes*, *Stolotermes*, *Termitogeton*, *Termes*, *Termitinae*, *Termopsis*, *Zootermopsis*, *Sphecoidea*, *Vespoidea* wasps, *Apoidea* **bees**, *Camponotus modoc*, *Camponotus vicinus*, *Camponotus ferrugineus*, *Camponotus floridanus*, *Camponotus pennsylvanicus*, *Camponotus herculeanus*, *Camponotus variegatus*, *Camponotus abdominalis*, *Camponotus noveboracensis*, *Solenopsis invicta*, . . . caterpillar, other caterpillars, larvae of the *Lepidoptera*, whiteflies, thrips, melon thrips, western flower thrips, aphids including Russian wheat aphid, spider **mites**, mealybugs including citrus mealybug, solanum mealybug, boll weevils, black vine weevils, European pecan weevils, mosquitoes, wasps, sweet potato whiteflies, silverleaf. . . *Achemon sphinx*, sweetpotato hornworm, whitelined sphinx, lygus bugs, chinch bugs and false chinch bugs, sow bugs, pill bugs, citrus rust **mite**, pill wood lice, wheat cockchafer, white grubs, cockchafers, springtails, storage **pests** and/or soil insects, *Isopoda*, *Diplopoda*, *Chilopoda*, *Symphyla*, *Thysanura*, *Collembola*, *Orthoptera*, *Dermaptera*, *Anoplura*, *Mallophaga*, *Thysanoptera*, *Heteroptera*, *Homoptera*, *Lepidoptera*, *Coleoptera*, *Diptera*, *Siphonaptera*, *Thysanoptera*, **Acarina**, *Arachnida* (all claimed).

The substrate forms a protective covering for electrical cables and wires, computer cables, telephone wires, microwave. . .

TECH.

preconidial attractiveness to insects, slowness to sporulate, mycelial pathogenicity and virulence, lack of virulence and pathogenicity, host specificity for targeted **pest** insects, time to insect death, mortality rate for pathogenic and virulent strains, low mortality rate of non-targeted insects, the proportion. . . pheromones, aggregating pheromones, trail pheromones, encapsulating materials, yeast and/or bacteria.

Preferred Components: (III) is an attractant to both a target **pest** insect and an insect predator of the target **pest** insect, and virulent only to the targeted **pest** insect. The substrate is a solid substrate e.g. wood, bait trap, grains, seeds, paper products, cardboard, sawdust, corn cobs, cornstalks, . . . targeted insect and/or pupae or larvae size of a targeted insect. The biological control agents are microbial pathogens, predator insects, **parasitic** insects, beneficial nematodes, spiders, beneficial **mites** or birds.

Preferred Fungal Species: (III) is derived from a genetically modified

fungal species. The strain of (III) does not. . . methanol, ethanol, isopropanol, n-propanol, n-butanol, 2-butanol, 2-methyl-1-propanol, ethylene glycol, glycerol, benzene, cyclohexane, cyclopentane, methylcyclohexane, pentanes, hexanes, heptanes, 2,2,4-trimethylpentane, toluene, xylenes, **acetone**, **2-butanone**, 3-pentanone, 4-methyl-2-pentanone, t-butyl methyl ether, 1,4-dioxane, diethyl ether, tetrahydrofuran, methyl formate, ethyl acetate and butyl acetate, acetonitrile, propionitrile, benzonitrile, formamide, N,N dimethylformamide,. . . is a masking agent for a chemical control agent.
Preferred Components: The chemical control agents are insect toxicants, poisons, regulators, **pesticides**, semiochemicals and sublethal doses of insect toxicants, poisons, regulators and **pesticides**.
The lubricating oil (IV) is petroleum, mineral oil, synthetic, semi-synthetic, biodegradable, vegetable oil, modified vegetable oil and/or animal lubricants or. . .

L7 ANSWER 6 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-540076 [51] WPIDS
CR 2002-489749 [52]
DNC C2003-146338
TI Composition useful for controlling insect e.g. termites comprises a preconidial mycelium of an entomopathogenic fungal species.
DC C05 F06 F09
IN STAMETS, P E
PA (STAM-I) STAMETS P E
CYC 1
PI US 2002146394 A1 20021010 (200351)* 45p
ADT US 2002146394 A1 CIP of US 2000-678141 20001003, US 2001-969456 20011001
PRAI US 2001-969456 20011001; US 2000-678141 20001003
AB US2002146394 A UPAB: 20030808

NOVELTY - A composition comprises a preconidial mycelium of an entomopathogenic fungal species.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) preparation of an insect attractant involving selection of the entomopathogenic fungal species having the preconidial mycelium that attracts an insect and cultivation of the preconidial mycelium on a substrate;

(2) a composition for attracting insects comprising a pre-sporulation fungal mycelium on grain; and

(3) a lubricating and inoculating composition comprising a lubricating oil and an entomopathogenic fungal inoculant selected from preconidial mycelium, conidia and/or post-conidial mycelium.

ACTIVITY - Insect attractant.

Colony fragments of 100 *Solenopsis invicta* red imported fire ants per standard plastic box test area were established with moistened soil and preconidial mycelium. Three drops of water were added to the soil daily to maintain a humid medium amenable to ant activity and fungal growth. *Beauveria bassiana* preconidial mycelium on rice were utilized as test strains. There were three replicates of each test strain and a control arena. Test arena portions of the preconidial mycelium were removed readily from the feeding dishes by the ants and scattered over the area floors. Ants also readily moved into and created gallery-like tunnels in the preconidial mycelium on rice in the feeding dishes. % Mortality for fire ants using the test strain and the control arena was 89 and 66.33 at 21 days respectively.

MECHANISM OF ACTION - None given.

USE - For attracting insect including a social **pest** insect or beneficial insect e.g. termites (including Formosan termites, reticulated termites and Isoptera termites including *Coptotermes*, *Reticulitermes*, *Cryptotermes*, *Ahamitermes*, *Allodontermes*, *Amitermes*,

Anacanthotermes, Amitermitinae, Archotermopsis, Armitermes, Calcaritermes, Capritermes, Cornitermes, Cubitermes, Drepanotermes, Globitermes, Glyptotermes, Heterotermes, Hodotermes, Hodotermopsis, Incisitermes, Kalotermes, Labiotermes, Macrotermes, Macrotermitinae, Marginitermes, Mastotermes, Microcerotermes, Microhodotermes, Nasutitermes, Nasutitermitinae, Neotermes, Odontotermes, Ophiotermes, Parastylotermes, Paraneotermes, Parrhinotermes, Pericapritermes, Porotermes, Prorhinotermes, Psammotermes, Rhinotermes, Rhynchotermes, Rugitermes, Schedorhinotermes, Serritermes, Syntermes, Stolotermes, Termitogeton, Termes, Termitinae, Termopsis and Zootermopsis), ants (carpenter ants and fire ants, Formicidae ants including Camponotus carpenter ants, Calomyrmex, Opisthopsis and Polyrhachis ants, pharaoh ants, Argentine ants, pavement ants, odorous house ants and Atta and Acromyrmex leaf cutter ants), wasps (including Sphecoidea and Vespoidea wasps) and **bees** (e.g. Apoidea **bees**), Camponotus madoc, Camponotus vicinus, Camponotus ferrugineus, Camponotus floridanus, Camponotus pennsylvanicus, Camponotus herculeanus, Camponotus variegatus, Camponotus abdominalis and Camponotus noveboracensis, Solenopsis invicta, Solenopsis ichteri, Monomorium pharonis, Coptotermes formosanus, Reticulitermes flauipes, Reticulitermes virginicus, Reticulitermes speratus, Reticulitermes hesperus, Reticulitermes tibialis, Reticulitermes lucifugus, Reticulitermes santonensis, Cryptotermes domesticus, C. cubioceps, Kalotermes flavicollis, Incisitermes minor and Mastotermes darwiniensis, bark, sap and wood-boring beetles (including mountain pine beetle, spruce beetle, red turpentine beetle, black turpentine beetle, southern pine beetle, Douglas fir beetle, engraver and Ips beetles and other sap beetles in the family Nitidulidae, powderpost beetles, false powderpost beetles, deathwatch beetles, oldhouse borers and Asian long-horned beetles), cockroaches (including American, German, Surinam, brown-banded, smokybrown, and Asian cockroaches), grasshoppers, locusts, crickets (including mole cricket, Mormon crickets), beetles, beetle grubs and beetle larvae including Colorado potato beetle and other potato beetles, Mexican bean beetle, Japanese beetle, cereal leaf beetle, darkling beetle and pasture scarabs and other Scarabaeidae, Gypsy moths and Gypsy moth larvae, diamondback moths, codling moth, Douglas fir tussock moth, western spruce budworm, grape berry moths, flies and fly larvae, large centipedes, shield centipedes, millipedes, European corn borers, Asiatic corn borers, velvetbean caterpillar and other caterpillars and larvae of the Lepidoptera, whiteflies, thrips, melon thrips, western flower thrips, aphids including Russian wheat aphid, spider **mites**, mealybugs including citrus mealybug and solanum mealybug, boll weevils, black vine weevils, European pecan weevils, mosquitoes, wasps, sweet potato whiteflies, silverleaf whiteflies, cotton fleahoppers, spittle bug, corn earworm, American bollworm, armyworms, fall armyworm, southern armyworm, beet armyworm, yellowstriped armyworm, black cutworm, tobacco hornworm, tobacco budworm, sugar cane froghopper, rice brown planthopper, earwigs, loopers including cabbage looper, soybean looper, forage looper and celery looper, cabbageworms including the imported cabbageworm and the European cabbageworm, tomato pinworm, tomato hornworm, leafminers, cotton leafworm, corn rootworm, garden webworm, grape leafroller, melonworm, pickleworm, achemon sphinx, sweetpotato hornworm, white lined sphinx, lygus bugs, chinch bugs and false chinch bugs, sow bugs, pill bugs, citrus rust **mite**, pill wood lice, wheat cockchafer, white grubs and cockchafer, springtails, storage **pests** and soil insects, Isopoda, Diplopoda, Chilopoda, Symphyla, Thysanura, Collembola, Orthoptera, Dermaptera, Anoplura, Mallophaga, Thysanoptera, Heteroptera, Homoptera, Lepidoptera, Coleoptera, Diptera, Siphonaptera, Thysanoptera, **Acarina** and Arachnida (all claimed).

ADVANTAGE - The preconidial mycelium is an attractant to both a targeted **pest** insect and an insect predator of the targeted **pest** insect and virulent only to the targeted **pest** insect; enhances the effectiveness of entomopathogenic fungal biopesticide

products and enhances the attractiveness of such fungal **pesticides** to insects; can act as a uniquely enticing insect food composition capable of inducing novel behaviors in the social insects including grazing on and house-keeping in preconidial mycelium and scattering of the preconidial mycelium around feeding areas and nesting chambers.

Dwg.1/3

AB

at 21 days respectively.

MECHANISM OF ACTION - None given.

USE - For attracting insect including a social **pest** insect or beneficial insect e.g. termites (including Formosan termites, reticulated termites and Isoptera termites including Coptotermes, Reticulitermes, Cryptotermes, Ahamitermes, Allodotermes,. . . ants, pavement ants, odorous house ants and Atta and Acromyrmex leaf cutter ants), wasps (including Sphecoidea and Vespoidea wasps) and **bees** (e.g. Apoidea **bees**), Camponotus madoc, Camponotus vicinus, Camponotus ferrugineus, Camponotus floridanus, Camponotus pennsylvanicus, Camponotus herculeanus, Camponotus variegatus, Camponotus abdominalis and Camponotus noveboracensis, Solenopsis. . . other caterpillars and larvae of the Lepidoptera, whiteflies, thrips, melon thrips, western flower thrips, aphids including Russian wheat aphid, spider **mites**, mealybugs including citrus mealybug and solanum mealybug, boll weevils, black vine weevils, European pecan weevils, mosquitoes, wasps, sweet potato whiteflies,. . . sphinx, sweetpotato hornworm, white lined sphinx, lygus bugs, chinch bugs and false chinch bugs, sow bugs, pill bugs, citrus rust **mite**, pill wood lice, wheat cockchafer, white grubs and cockchafers, springtails, storage **pests** and soil insects, Isopoda, Diplopoda, Chilopoda, Symphyla, Thysanura, Collembola, Orthoptera, Dermaptera, Anoplura, Mallophaga, Thysanoptera, Heteroptera, Homoptera, Lepidoptera, Coleoptera, Diptera, Siphonaptera, Thysanoptera, **Acarina** and Arachnida (all claimed).

ADVANTAGE - The preconidial mycelium is an attractant to both a targeted **pest** insect and an insect predator of the targeted **pest** insect and virulent only to the targeted **pest** insect; enhances the effectiveness of entomopathogenic fungal biopesticide products and enhances the attractiveness of such fungal **pesticides** to insects; can act as a uniquely enticing insect food composition capable of inducing novel behaviors in the social insects. . .

TECH.

preconidial attractiveness to insects, slowness to sporulate, mycelial pathogenicity and virulence, lack of virulence and pathogenicity, host specificity for targeted **pest** insects, time to insect death, mortality rate for pathogenic and virulent strains, low mortality rate of non-targeted insects, the proportion. . . is biological control agent, chemical control agent, and/or physical control agent. The biological control agent is microbial pathogen, predator insect, **parasitic** insect, beneficial nematode, spider, beneficial **mite** and bird. The chemical control agent is insect toxicant, poison, regulator, **pesticide** and semiochemical and sub-lethal doses of insect toxicant, poison, regulator and **pesticide**. The lubricating oil is petroleum and mineral oil lubricants, synthetic lubricant, semi-synthetic lubricant, biodegradable lubricant, vegetable oil lubricant, modified vegetable. . . Preferred Component: The attractant extract is prepared with a solvent selected from water including steam, alcohols, organic solvents (e.g. methanol, **acetone**) and/or carbon dioxide, or a polar solvent. The attractant extract is a masking agent for a chemical control agent.

L7 ANSWER 7 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-80724 CROPU C G I

TI Method useful in the control of **parasitic mites** and
have invading **pests** of honey **bees**, comprises

application of a specified ketone, 1-heptanol, ethyl butyrate, benzaldehyde, heptaldehyde or d-limonene.

IN Erickson E H; Degrandi-Hoffman G; Becker C G; Whitson R S; Deeby T A
PA US-Sec.Army; Cerexagri
LO King of Prussia, Pa., USA
PI WO 2002067914 A1 20020906
AI US 2001-272097P 20010228
US 2002-272097 20020227
WO 2002-US5986 20020228

DT Patent
LA English
OS WPI: 2002-740718
FA AB; LA; CT
AB A method of controlling **parasitic mites** of honey **bees** (*Apis mellifera*) is claimed, comprising application of a specified ketone (I: especially 2-heptanone (2H)), 1-heptanol, ethyl butyrate, benzaldehyde, heptaldehyde or d-limonene. A typical formulation was a slow-release oil-gelled composition containing 10% 2H and 90% gelled mineral oil (Versagel C HP). In an example, **mites** (*Varroa jacobsoni*) were placed in petri dishes containing 40 ul 2H in the lid; fluvalinate (Apistan) was used as comparison. Within 2 hr, the **mites** were all dead, while no mortality was seen in controls. The composition had no ill effect on **bees** (composition of queen's court, oviposition). It is also claimed to be useful for controlling hive invading **pests**, especially greater wax moth (*Galleria mellonella*), lesser wax moth (*Achroia grisella*), small hive beetle (*Aethina tunida*), ants or *Tropilaelaps*.

TI Method useful in the control of **parasitic mites** and hive invading **pests** of honey **bees**, comprises application of a specified ketone, 1-heptanol, ethyl butyrate, benzaldehyde, heptaldehyde or d-limonene.

AB A method of controlling **parasitic mites** of honey **bees** (*Apis mellifera*) is claimed, comprising application of a specified ketone (I: especially 2-heptanone (2H)), 1-heptanol, ethyl butyrate, benzaldehyde, heptaldehyde or d-limonene. A typical formulation was a slow-release oil-gelled composition containing 10% 2H and 90% gelled mineral oil (Versagel C HP). In an example, **mites** (*Varroa jacobsoni*) were placed in petri dishes containing 40 ul 2H in the lid; fluvalinate (Apistan) was used as comparison. Within 2 hr, the **mites** were all dead, while no mortality was seen in controls. The composition had no ill effect on **bees** (composition of queen's court, oviposition). It is also claimed to be useful for controlling hive invading **pests**, especially greater wax moth (*Galleria mellonella*), lesser wax moth (*Achroia grisella*), small hive beetle (*Aethina tunida*), ants or *Tropilaelaps*.

ABEX. . . or $y = 1$ and $x = 3$; or $y = 2$ and $x = 2$. Also claimed are: an **acaricidal** composition for controlling **parasitic mites** of honey **bees** comprising a dispenser which provides the active compound; an attractant composition for attracting **parasitic mites** of honey **bees** comprising a dispenser providing 2H; a trapping system for controlling **parasitic mites** of honey **bees** comprising a trap and a dispenser containing 2H; and a composition for controlling hive invading **pests** of honey **bees** comprising a dispenser containing 2H. The agent either kills **mites**, incapacitates them (such as disrupting neural or other physiological functions to prevent essential **mite** functions or reproduction), or renders them sufficiently impaired to be trapped, drowned, isolated or otherwise removed from an area. 2H also acts as an attractant for **Varroa mites**.

CT HEPTANONE-2 *TR; **VARROA** *TR; JACOBSONI *TR; **BEE** *TR
; VARROIDAE *TR; **ACARINA** *TR; FLUVALINATE *RC;
TAU-FLUVALINATE *RC; APISTAN *RC; HEPTANON2 *RN; **ACARICIDE** *FT
; **ACARICIDES** *FT; OIL *FT; GEL *FT; COMB.ADDITIVE *FT;
VERSAGEL-C-HP *FT; BIOASSAY *FT; DOSAGE *FT; IN-VITRO *FT; FORMULATION
*FT; ALARM-PHEROMONES *FT; INSECT-REPELLENTS. . .

L7 ANSWER 8 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 2003:120092 CABA

DN 20033076220

TI Laboratory evaluation of some plant essences to control **Varroa**
destructor (**Acari**: Varroidae)

AU Ardeshir Ariana; Rahim Ebadi; Gholamhosein Tahmasebi

CS College of Agriculture, Isfahan University of Technology, 84154 Isfahan,
Iran. ebadir@cc.iut.ac.ir

SO Experimental and Applied Acarology, (2002) Vol. 27, No. 4, pp. 319-327. 21
ref.

Publisher: Kluwer Academic Publishers. Dordrecht

ISSN: 0168-8162

DOI: 10.1023/A:1023342118549

CY Netherlands Antilles

DT Journal

LA English

ED Entered STN: 20030812

Last Updated on STN: 20040216

AB This research was conducted to evaluate **acaricidal** effects of
some plant essences on **Varroa mites** and the
possibility of their usage for **Varroa** control. First, live
Varroa mites were obtained from adult **honeybees**
with CO2 in a newly designed apparatus. Thyme, savory, rosemary, marjoram,
dillsun [*Anethum graveolens*] and lavender essences at concentrations of 2
and 1 g/100 g (w/w), caused a **mite** mortality rate of more than
97% and 95%, respectively. Also spearmint at 2 g/100 g was able to kill
more than 97% of **Varroa mites**. When sprayed on worker
honeybees infected with **mites**, thyme, savory, spearmint
[*Mentha spicata*] and dillsun essences at 2 g/100 g (w/w) caused 43-58%
Varroa mortality. Toxicity of thyme, savory and spearmint essences
for worker **honeybees** was not significantly different from that
of controls (**acetone** and water), but dillsun essence caused 12%
honeybee mortality. These results showed that essences of thyme,
savory and spearmint have **acaricidal** properties that could be
used for controlling **Varroa** in **honeybee** colonies.

TI Laboratory evaluation of some plant essences to control **Varroa**
destructor (**Acari**: Varroidae).

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possibility of their usage for **Varroa** control. First, live
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[*Mentha spicata*] and dillsun essences at 2 g/100 g (w/w) caused 43-58%
Varroa mortality. Toxicity of thyme, savory and spearmint essences
for worker **honeybees** was not significantly different from that
of controls (**acetone** and water), but dillsun essence caused 12%
honeybee mortality. These results showed that essences of thyme,
savory and spearmint have **acaricidal** properties that could be
used for controlling **Varroa** in **honeybee** colonies.

BT *Anethum*; *Apiaceae*; *Apiales*; *dicotyledons*; *angiosperms*; *Spermatophyta*;

plants; **Apis**; Apidae; Hymenoptera; insects; arthropods;
invertebrates; animals; *Mentha*; Lamiaceae; Lamiales; *Origanum*; *Rosmarinus*;
Thymus; Varroidae; Mesostigmata; **mites**; **Acari**;
Arachnida

CT **acaricidal** properties; botanical **pesticides**; chemical
control; dill; evaluation; honey **bees**; mortality;
parasites; **pest** control; rosemary

ST savory; **Varroa** destructor

ORGN *Anethum graveolens*; **Apis mellifera**; *Mentha spicata*; *Origanum*
vulgare; *Rosmarinus officinalis*; *Satureja*; *Thymus vulgaris*; **Varroa**

L7 ANSWER 9 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 2003:84827 CABA

DN 20033044612

TI Laboratory and field evaluation of floral odours from African marigold,
Tagetes erecta, and sweet pea, *Lathyrus odoratus*, as kairomones for the
cotton bollworm *Helicoverpa armigera*

AU Bruce, T. J.; Cork, A.; Hall, D. R.; Dunkelblum, E.; Witzgall, P.
[EDITOR]; Mazomenos, B. [EDITOR]; Konstantopoulou, M. [EDITOR]

CS Natural Resources Institute, Chatham Maritime, ME4 4TB Kent, UK.

SO Bulletin OILB/SROP, (2002) Vol. 25, No. 9, pp. 315-322. 17 ref.

Publisher: International Organization for Biological and Integrated
Control of Noxious Animals and Plants (OIBC/OILB), West Palaearctic
Regional Section (WPRS/SROP). Dijon

Price: Journal article; Conference paper .

Meeting Info.: IOBC/WPRS Working Group 'Use of Pheromones and Other
Semiachemicals in Integrated Control'. Pheromones and other biological
techniques for insect control in orchards and vineyards. Proceedings of
the working group meeting, Samos, Greece, September 25-29, 2000.

CY France

DT Journal

LA English

ED Entered STN: 20030606

Last Updated on STN: 20030606

AB Significant increases in upwind flight of *H. armigera* in a wind-tunnel
were obtained with air entrained with headspace samples of African
marigold (*Tagetes erecta*) flowers ($P=0.014$), sweet pea and *Lathyrus*
odoratus flowers ($P=0.047$). Analysis of the compounds contained in the
Porapak Q extracts was carried out by GC-MS. Direct EAG was used to screen
for the most electrophysiologically active natural extracts and GC-EAG was
used in screening for compounds to test in the wind-tunnel. Two
4-component synthetic kairomonal blends were identified which
significantly increased the upwind flight in the wind-tunnel ($P<0.001$ and
 $P=0.014$ for marigold and sweet pea blends, respectively). In a field
experiment conducted in Israel, funnel traps baited with floral odours
were tested for their ability to trap *H. armigera* and other insects.
Significantly more *H. armigera*, noctuid **pests** (*Autographa*
gamma), honey **bees** (***Apis*** spp.), wasps (*Halictus* spp.)
and lacewings (*Chrysopidae*) were caught in traps baited with synthetic
marigold, sweet pea and *L. odoratus*, floral volatiles than in unbaited
control traps. The marigold blend contained benzaldehyde,
([plusmn])-linalool, phenylacetaldehyde and (S)-(-)-limonene, whereas the
sweet pea blend contained (-)-linalool, phenylacetaldehyde, benzyl alcohol
and diacetone (4-hydroxy-4-methyl-2-**pentanone**) in the
natural ratio. Although the target specificity and level of attraction
obtained with the floral traps was too low for mass trapping, the floral
traps could possibly be used for monitoring female *H. armigera*
populations. These findings are discussed in relation to the potential use
of floral kairomones in the integrated control of *H. armigera*.

AB . . . with floral odours were tested for their ability to trap *H.*
armigera and other insects. Significantly more *H. armigera*, noctuid
pests (*Autographa gamma*), honey **bees** (***Apis***

spp.), wasps (*Halictus* spp.) and lacewings (*Chrysopidae*) were caught in traps baited with synthetic marigold, sweet pea and *L. odoratus*,. . . marigold blend contained benzaldehyde, ([plusmn])-linalool, phenylacetaldehyde and (S)-(-)-limonene, whereas the sweet pea blend contained (-)-linalool, phenylacetaldehyde, benzyl alcohol and diacetone (4-hydroxy-4-methyl-2-pentanone) in the natural ratio. Although the target specificity and level of attraction obtained with the floral traps was too low. . .

CT benzaldehyde; benzyl alcohol; chemical composition; cotton; insect control; insect **pests**; integrated control; kairomones; limonene; linalool; peas; **pest** control; plant composition; plant **pests**; sweet peas; trapping

ORGN **Apis**; *Autographa gamma*; *Chrysopidae*; *Gossypium*; *Halictus*; *Helicoverpa armigera*; insects; *Lathyrus odoratus*; *Pisum sativum*; *Tagetes erecta*

L7 ANSWER 10 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2003-80815 CROPU A I

TI Simple method for the determination of trace levels of **pesticides** in **honeybees** using matrix solid-phase dispersion and gas chromatography.

AU Morzycka B

CS Inst.Plant-Prot.Poznan

LO Bialystok, Pol.

SO J.Chromatogr. (982, No. 2, 267-73, 2002)
CODEN: JOCRAM

DT Journal

LA English

FA AB; LA; CT

AB The development of a simple multiresidue method, using matrix solid-phase dispersion and GC analysis, for the determination of 12 insecticides in **honeybees** was reported. The following insecticides, used on flowering fields, were studied: azinphos-methyl, buprofezin, chlorpyrifos-methyl, chlorpyrifos, diazinon, ethion, fenitrothion, fipronil, methidathion, phosalone, pirimicarb and propoxur. The method used activated Florisil or silica as dispersing agents in conjunction with activated silica or alumina column cleanup. After clean-up, extracts were analysed by capillary GC/NPD analysis. Good recoveries (70-110%) were obtained for samples spiked at 0.01-1.0 mg/kg; detection limits were 0.005-0.05 mg/kg. The method was suitable for the analysis of residues of low and medium polarity **pesticides** in **honeybee** samples.

TI Simple method for the determination of trace levels of **pesticides** in **honeybees** using matrix solid-phase dispersion and gas chromatography.

AB. . . development of a simple multiresidue method, using matrix solid-phase dispersion and GC analysis, for the determination of 12 insecticides in **honeybees** was reported. The following insecticides, used on flowering fields, were studied: azinphos-methyl, buprofezin, chlorpyrifos-methyl, chlorpyrifos, diazinon, ethion, fenitrothion, fipronil, methidathion,. . . mg/kg; detection limits were 0.005-0.05 mg/kg. The method was suitable for the analysis of residues of low and medium polarity **pesticides** in **honeybee** samples.

ABEX **Honeybee** samples were homogenized with activated Florisil or silica as dispersing agents, before activated silica or alumina column cleanup using n-hexane/Et2O and n-hexane/EtOAc as eluents. The combined fractions were evaporated to low volume, and dissolved in n-hexane/acetone before quantification by capillary GC/NPD analysis (HP-1 column).

CT **BEE *OC; APIS *OC; APIDAE *OC; HYMENOPTERA *OC;**
MATRIX *FT; SOLID *FT; PHASE *FT; DISPERSION *FT; GLC *FT;

MULTIRESIDUE *FT; METHOD *FT; DEVELOPMENT. . . SAMPLE *FT; RECOVERY
*FT; QUANT. *FT; DET. *FT; CHROMATOGRAPHY *FT; ANALYSIS *FT;
EXTRACTION *FT; AZINPHOS-METHYL *OC; AZINPHOSM *RN; INSECTICIDES *FT;
ACARICIDES *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
OC *FT; BUPROFEZIN *OC; BUPROFEZI *RN; CHLORPYRIFOS-METHYL *OC;
CHLORPYME *RN; CONTACTS *FT; FUMIGANTS *FT; STOMACH-POISONS. . .

L7 ANSWER 11 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3

AN 2002:391062 CAPLUS

DN 136:365150

TI Effects of acute sublethal exposure to coumaphos or diazinon on
acquisition and discrimination of odor stimuli in the honey **bee**
(Hymenoptera: Apidae)

AU Weick, Jason; Thorn, Robert S.

CS Department of Biology, Denison University, Granville, OH, 43203, USA

SO Journal of Economic Entomology (2002), 95(2), 227-236

CODEN: JEENAI; ISSN: 0022-0493

PB Entomological Society of America

DT Journal

LA English

AB Two organophosphate compds., coumaphos and diazinon, were examd. for
effects of sublethal exposure on odor learning and generalization in honey
bees, Apis mellifera. Using proboscis extension
response training as a measure of odor learning and discrimination, a
series of two expts. tested whether these compds. would inhibit
bees from learning a new odor or discriminating between different
odors. **Bees** were exposed to coumaphos or diazinon in
acetone applied to the thorax, or to coumaphos or diazinon in
hexane injected intracranially. At no dose tested or exposure method used
was coumaphos shown to inhibit acquisition of a novel odor stimulus,
although it was shown to slightly reduce discriminatory ability when given
by intracranial injection. Diazinon had effects on odor learning at
several small doses, and a small injected dose was shown to significantly
inhibit learning of an odor stimulus paired with a sucrose reward. When
bee head acetylcholinesterase activity was measured after dermal
applications of both **pesticides**, only the higher doses of
diazinon showed reduced activity, indicating that externally-applied
coumaphos shows no significant effect on **bee** brain
acetylcholinesterase activity. These data suggest that acute application
of coumaphos has only slight nonlethal effects upon the behavior of honey
bees and should have little effect upon **bee** tasks that
involve odor learning.

RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Effects of acute sublethal exposure to coumaphos or diazinon on
acquisition and discrimination of odor stimuli in the honey **bee**
(Hymenoptera: Apidae)

AB Two organophosphate compds., coumaphos and diazinon, were examd. for
effects of sublethal exposure on odor learning and generalization in honey
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series of two expts. tested whether these compds. would inhibit
bees from learning a new odor or discriminating between different
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several small doses, and a small injected dose was shown to significantly
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bee head acetylcholinesterase activity was measured after dermal

applications of both **pesticides**, only the higher doses of diazinon showed reduced activity, indicating that externally-applied coumaphos shows no significant effect on **bee** brain acetylcholinesterase activity. These data suggest that acute application of coumaphos has only slight nonlethal effects upon the behavior of honey **bees** and should have little effect upon **bee** tasks that involve odor learning.

ST coumaphos diazinon odor discrimination honey **bee**; **Apis**
coumaphos diazinon odor discrimination

IT Brain
(acetylcholinesterase; effects of acute sublethal exposure to coumaphos or diazinon on acquisition and discrimination of odor stimuli in honey **bee**)

IT **Honeybee**
(effects of acute sublethal exposure to coumaphos or diazinon on acquisition and discrimination of odor stimuli in honey **bee**)

IT Behavior
(odor-discriminating; effects of acute sublethal exposure to coumaphos or diazinon on acquisition and discrimination of odor stimuli in honey **bee**)

IT Learning
(odor; effects of acute sublethal exposure to coumaphos or diazinon on acquisition and discrimination of odor stimuli in honey **bee**)

IT 56-72-4, Coumaphos 333-41-5, Diazinon
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(effects of acute sublethal exposure to coumaphos or diazinon on acquisition and discrimination of odor stimuli in honey **bee**)

IT 9000-81-1, Acetylcholinesterase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(effects of acute sublethal exposure to coumaphos or diazinon on acquisition and discrimination of odor stimuli in honey **bee**)

L7 ANSWER 12 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:660389 CAPLUS
DN 138:200301
TI Notes and comments: **2-heptanone** as a repellent for **Apis** florea

AU Naik, D. G.; Banhatti, Padmini; Chadawa, S. S.; Thomas, Daisy
CS Chemistry Group, Agharkar Research Institute, Pune, 411 004, India
SO Journal of Apicultural Research (2002), 41(1-2), 59-61
CODEN: JACRAQ; ISSN: 0021-8839
PB International Bee Research Association
DT Journal
LA English

AB The repellency of **2-heptanone**, a consituent of a mandibular gland pheromone of **Apis** mellifera and Trigona gribidoi, to **Apis** florea was examd. using formulations in liq. paraffin by the method standardized for A. cerana. A bioassay was performed using different concns. of **2-heptanone** in liq. paraffin. The repellent character was obsd. at very low **2-heptanone** concns. The repellent behavior of the formulation increased with an increase in concn. up to 230 .mu.l/mL **2-heptanone** in liq. paraffin. Repellency remained const. for the higher concns. including pure **2-heptanone**. **2-Heptanone** is not phytotoxic and can be used to repel **honeybees** from areas subjected to the use of **pesticides**.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Notes and comments: **2-heptanone** as a repellent for **Apis** florea

AB The repellency of **2-heptanone**, a consituent of a mandibular gland pheromone of **Apis** mellifera and Trigona

gribidoi, to **Apis** florea was examd. using formulations in liq. paraffin by the method standardized for *A. cerana*. A bioassay was performed using different concns. of **2-heptanone** in liq. paraffin. The repellent character was obsd. at very low **2-heptanone** concns. The repellent behavior of the formulation increased with an increase in concn. up to 230 .mu.l/mL **2-heptanone** in liq. paraffin. Repellency remained const. for the higher concns. including pure **2-heptanone**. **2-Heptanone** is not phytotoxic and can be used to repel **honeybees** from areas subjected to the use of **pesticides**.

ST heptanone repellent **Apis**

IT **Honeybee** (**Apis** florea)
(repellency of **2-heptanone** for)

IT Insect repellents
(repellency of **2-heptanone** for **Apis** florea)

IT **110-43-0, 2-Heptanone**
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(repellency for **Apis** florea)

L7 ANSWER 13 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2001-298906 [31] WPIDS

DNC C2001-091851

TI Protecting beneficial insects, especially **bees**, from damage caused by **parasitic mites** comprises applying tebufenpyrad to the insects or their brood chamber or habitat.

DC B03 C02

IN BAUMBACH, W R; BELUCH, M P; BLACK, B C

PA (AMCY) AMERICAN CYANAMID CO

CYC 1

PI US 6204283 B1 20010320 (200131)* 3p

ADT US 6204283 B1 Provisional US 1998-92773P 19980714, US 1999-351222 19990712

PRAI US 1998-92773P 19980714; US 1999-351222 19990712

AB US 6204283 B UPAB: 20010607

NOVELTY - Method for protecting beneficial insects from damage caused by **parasitic mites** selected from **Varroa jacobsoni**, **Acarapis woodi** and **Tropilaelaps clareae** comprises applying tebufenpyrad (I; N-(4-t-butylbenzyl)-4-chloro-3-ethyl-1-methylpyrazole-5-carboxamide) to the insects or their brood chamber or habitat.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for controlling **parasitic mites** selected from **Varroa jacobsoni**, **Acarapis woodi** and **Tropilaelaps clareae** in the presence of beneficial insects, comprising contacting the **mites** or their brood chamber or habitat with (I).

USE - The method is useful for protecting **bees** of the family **Apinae**, **Bombinae** and **Euglossinae**, especially **honeybees** (**Apis mellifera**).

ADVANTAGE - (I) is more toxic to the **mites** than it is to **honeybees**. **Honeybees** taken from hives that were 70-90% infested with **Varroa jacobsoni** were immobilized by chilling and treated by applying a droplet of an **acetone** solution of (I) to the dorsal abdomen. The **bees** were placed in an incubator at 31 deg. C and fed 50% sugar water ad libitum for 5 days. At doses of 0, 0.006, 0.06 and 0.6 micro g (I) per **bee**, the **mite** mortality was 0, 58, 44 and 92%, respectively, and the **bee** mortality was 14, 24, 25 and 28%, respectively.

Dwg.0/0

TI Protecting beneficial insects, especially **bees**, from damage caused by **parasitic mites** comprises applying tebufenpyrad to the insects or their brood chamber or habitat.

AB US 6204283 UPAB: 20010607
NOVELTY - Method for protecting beneficial insects from damage caused by **parasitic mites** selected from **Varroa jacobsoni**, **Acarapis woodi** and **Tropilaelaps clareae** comprises applying tebufenpyrad (I; N-(4-t-butylbenzyl)-4-chloro-3-ethyl-1-methylpyrazole-5-carboxamide) to the insects or their brood chamber or habitat.

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Dwg.0/0

TT TT: PROTECT BENEFICIAL INSECT **BEE** DAMAGE CAUSE **PARASITIC MITE** COMPRISE APPLY INSECT BROOD CHAMBER HABITAT.

L7 ANSWER 14 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2001-85479 CROPU I G

TI Protecting beneficial insects, especially **bees**, from damage caused by **parasitic mites** comprises applying tebufenpyrad to the insects or their brood chamber or habitat.

IN Black B C; Baumbach W R; Beluch M P

PA Am.Cyanamid

LO Yardley, Pa., Hopewell; Bell Mead, N.Y., USA

PI US 6204283 B1 20010320

AI US 1998-92773 19980714

US 1999-351222 19990712

DT Patent

LA English

OS WPI: 2001-298906

FA LA; CT

AB A method for control of **parasitic mites** on **honeybees** is described, which consists of the application of an effective amount of tebufenpyrad. **Honeybees** from a colony 70-90% infected by **V. jacobsoni** were treated topically with a droplet of **acetone** containing 0.6, 0.06 or 0.006 ug tebufenpyrad; after 5 d, mortality of treated **bees** was 24-28%, while **mite** mortality was 44-92%. **Bee** tracheae infested with **Acarapis woodi** were placed on glass slides which were dipped into **acetone** containing 500 ppm tebufenpyrad; time to 100% mortality was 8-10 min. In a field test, 2 hives infested with **V. jacobsoni** were treated with 2 strips (2.5 x 17 cm), each containing 18% tebufenpyrad in a 60:40 beeswax/lard (Crisco) mix, inserted into the brood chamber, and **mite** infestation was monitored using sticky boards. Number of **mites** caught per day was 66-101 before and 1080-1777 after treatment. (No EX).

TI Protecting beneficial insects, especially **bees**, from damage caused by **parasitic mites** comprises applying tebufenpyrad to the insects or their brood chamber or habitat.

AB A method for control of **parasitic mites** on

honeybees is described, which consists of the application of an effective amount of tebufenpyrad. **Honeybees** from a colony 70-90% infected by *V. jacobsoni* were treated topically with a droplet of **acetone** containing 0.6, 0.06 or 0.006 ug tebufenpyrad; after 5 d, mortality of treated **bees** was 24-28%, while **mite** mortality was 44-92%. **Bee** tracheae infested with **Acarapis** *woodi* were placed on glass slides which were dipped into **acetone** containing 500 ppm tebufenpyrad; time to 100% mortality was 8-10 min. In a field test, 2 hives infested with *V.* . . (2.5 x 17 cm), each containing 18% tebufenpyrad in a 60:40 beeswax/lard (Crisco) mix, inserted into the brood chamber, and **mite** infestation was monitored using sticky boards. Number of **mites** caught per day was 66-101 before and 1080-1777 after treatment. (No EX).

CT TEBUFENPYRAD *TR; TEBUFENPYRAD *SE; APIDAE *SE; **APIS** *SE;
 MELLIFERA *SE; **BEE** *SE; **ACARAPIS** *TR; WOODI *TR;
 VARROA *TR; JACOBSONI *TR; HYMENOPTERA *SE; TARSONEMIDAE *TR;
 ACARINA *TR; MK-239 *RN; **ACARICIDE** *FT; TOPICAL *FT;
 DOSAGE *FT; SURVIVAL *FT; NON-TARGET *FT; LAB.TEST *FT; HIVE *FT;
 FIELD *FT; N.Y. *FT; APPL. TECHNIQUE *FT; USA *FT; AREA-AMERICA *FT;
 ACARICIDES *FT; INSECTICIDES *FT; TR *FT; SE *FT

L7 ANSWER 15 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
AN 2001:494887 CAPLUS
DN 135:103531
TI Analysis of organophosphorus **pesticides** in **honeybee** by
 liquid chromatography-atmospheric pressure chemical ionization-mass
 spectrometry
AU Fernandez, M.; Pico, Y.; Girotti, S.; Manes, J.
CS Laboratori de Bromatologia i Toxicologia Facultat de Farmacia, Universitat
 de Valencia, Valencia, 46100, Spain
SO Journal of Agricultural and Food Chemistry (2001), 49(8), 3540-3547
 CODEN: JAFCAU; ISSN: 0021-8561
PB American Chemical Society
DT Journal
LA English
AB **Pesticides** applied in extended agricultural fields may be
 controlled by means of bioindicators, such as **honeybees**, in
 which are the **pesticides** bioaccumulate. Liq. chromatog.-atm.
 pressure chem. ionization-mass spectrometry (LC-APCI-MS) expts. with pos.
 (PI) and neg. (NI) ion modes were optimized for the anal. of 22
 organophosphorus **pesticides** in **honeybee** samples. The
 extn. required 3 g of sample, which was extd. with **acetone**. The
 ext. was purified with coagulating soln. and reextd. with Cl₂CH₂.
 Pesticides studied could be detected by both ionization modes
 except for parathion, parathion-Me, and bromophos, which did not give
 signals in PI mode, and triazophos, which was not detected in NI mode.
 Fragmentation voltage and vaporizer temp. were optimized to achieve the
 highest sensitivity. The spectra profile of each **pesticide** in
 PI mode showed the [M + H]⁺ ion as the main signal, whereas in NI mode
 only fragment ions were shown. The detection limit obtained in selected
 ion monitoring mode ranged from 1 to 15 .mu.g kg⁻¹. The av. recoveries
 from spiked **honeybees** at various concn. levels (0.5-5 mg kg⁻¹)
 exceeded 65% with relative std. deviations of 4-15%. The method was
 applied to real samples, in which residues of coumaphos and dimethoate
 were detected.

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Analysis of organophosphorus **pesticides** in **honeybee** by
 liquid chromatography-atmospheric pressure chemical ionization-mass
 spectrometry
AB **Pesticides** applied in extended agricultural fields may be
 controlled by means of bioindicators, such as **honeybees**, in

which are the **pesticides** bioaccumulate. Liq. chromatog.-atm. pressure chem. ionization-mass spectrometry (LC-APCI-MS) expts. with pos. (PI) and neg. (NI) ion modes were optimized for the anal. of 22 organophosphorus **pesticides** in **honeybee** samples. The extn. required 3 g of sample, which was extd. with **acetone**. The ext. was purified with coagulating soln. and reextd. with Cl₂CH₂. **Pesticides** studied could be detected by both ionization modes except for parathion, parathion-Me, and bromophos, which did not give signals in PI mode, and triazophos, which was not detected in NI mode. Fragmentation voltage and vaporizer temp. were optimized to achieve the highest sensitivity. The spectra profile of each **pesticide** in PI mode showed the [M + H]⁺ ion as the main signal, whereas in NI mode only fragment ions were shown. The detection limit obtained in selected ion monitoring mode ranged from 1 to 15 .mu.g kg⁻¹. The av. recoveries from spiked **honeybees** at various concn. levels (0.5-5 mg kg⁻¹) exceeded 65% with relative std. deviations of 4-15%. The method was applied to real samples, in which residues of coumaphos and dimethoate were detected.

- ST organophosphorus **pesticide** LC atm pressure chem ionization MS
 IT Chemical ionization mass spectrometry
 (atm.-pressure; organophosphorus **pesticides** detn. in
 honeybee by LC-atm. pressure pos. or neg. ion chem.
 ionization-MS)
- IT **Honeybee**
 Liquid chromatography
 (organophosphorus **pesticides** detn. in **honeybee** by
 LC-atm. pressure pos. or neg. ion chem. ionization-MS)
- IT Phosphates, analysis
 RL: ANT (Analyte); ANST (Analytical study)
 (organophosphorus **pesticides** detn. in **honeybee** by
 LC-atm. pressure pos. or neg. ion chem. ionization-MS)
- IT **Pesticides**
 (organophosphorus; organophosphorus **pesticides** detn. in
 honeybee by LC-atm. pressure pos. or neg. ion chem.
 ionization-MS)
- IT Phosphates, analysis
 RL: ANT (Analyte); ANST (Analytical study)
 (phosphorodithioates; organophosphorus **pesticides** detn. in
 honeybee by LC-atm. pressure pos. or neg. ion chem.
 ionization-MS)
- IT Phosphates, analysis
 RL: ANT (Analyte); ANST (Analytical study)
 (phosphorothioates; organophosphorus **pesticides** detn. in
 honeybee by LC-atm. pressure pos. or neg. ion chem.
 ionization-MS)
- IT 56-38-2, Parathion 56-72-4, Coumaphos 60-51-5, Dimethoate 121-75-5,
 Malathion 298-00-0, Parathion-methyl 311-45-5, Paraoxon 333-41-5,
 Diazinon 732-11-6, Phosmet 944-22-9, Fonofos 950-37-8, Methidathion
 2104-96-3, Bromophos 2275-23-2, Vamidothion 2310-17-0, Phosalone
 2597-03-7 2642-71-9, azinphos-ethyl 5598-13-0 13457-18-6, Pyrazophos
 13593-03-8, Quinalphos 23505-41-1, Pirimiphos-ethyl 23560-59-0,
 Heptenophos 24017-47-8, Triazophos 29232-93-7, Pirimiphos-methyl
 RL: ANT (Analyte); ANST (Analytical study)
 (organophosphorus **pesticides** detn. in **honeybee** by
 LC-atm. pressure pos. or neg. ion chem. ionization-MS)
- L7 ANSWER 16 OF 85 CABA COPYRIGHT 2004 CABI on STN
 AN 2002:47656 CABA
 DN 20013180284
 TI Resistance of the honey bee, *Apis mellifera* to the
 acarian parasite *Varroa destructor*:
 behavioural and electroantennographic data

AU Martin, C.; Provost, E.; Roux, M.; Bruchou, C.; Crauser, D.; Clement, J. L.; Conte, Y. le; le Conte, Y.

CS Institut National de la Recherche Agronomique, Laboratoire de Biologie et Protection de abeille, Unite de Zoologie-Apidologie, Avignon, France. caroline.martin@univ-avignon.fr

SO Physiological Entomology, (2001) Vol. 26, No. 4, pp. 362-370. 24 ref. Publisher: Blackwell Science. Oxford
ISSN: 0307-6962

CY United Kingdom

DT Journal

LA English

ED Entered STN: 20020308
Last Updated on STN: 20020308

AB One way in which *A. mellifera* honey **bees** resist *V. destructor* (collected from Avignon, France) is by detection and elimination of nestmates. This study uses behavioural tests and electroantennography to assess the role of chemostimuli in recognition by honey **bees** of this **acar**ian ectoparasite. Behavioural tests using living or dead **parasites** involved observation of honey **bee** grooming activity (antennation) under controlled conditions in Petri dishes, and removal behaviour (uncapping and elimination of **parasitized** and unparasitized control brood cells) under natural conditions. Some **bees** from colonies with both small and large **parasite** populations showed aggressive behaviour (biting). No difference was observed according to whether the **mite** was dead or alive. Under natural conditions, **bees** uncapped more **parasitized** cells than control cells. Electroantennographic tests were performed to measure sensitivity to various **Varroa** extracts at three concentrations (10, 20 and 30 **Varroa** equivalents). Only 30 **Varroa** equivalent methanol extracts made from **Varroa** collected from brood cells elicited significantly greater antennal response than controls (pure solvent). All three methanol extracts elicited significantly greater antennal response than controls. No response was observed using **Varroa** extracts made with **acetone** or hexane. These findings suggest that polar products may act as chemostimuli for recognition of *V. destructor* by honey **bees**. Further study will be necessary to determine which polar products are involved in this recognition and assess grooming and removal behaviour using these products.

TI Resistance of the honey **bee**, *Apis mellifera* to the **acar**ian parasite **Varroa** destructor: behavioural and electroantennographic data.

AB One way in which *A. mellifera* honey **bees** resist *V. destructor* (collected from Avignon, France) is by detection and elimination of nestmates. This study uses behavioural tests and electroantennography to assess the role of chemostimuli in recognition by honey **bees** of this **acar**ian ectoparasite. Behavioural tests using living or dead **parasites** involved observation of honey **bee** grooming activity (antennation) under controlled conditions in Petri dishes, and removal behaviour (uncapping and elimination of **parasitized** and unparasitized control brood cells) under natural conditions. Some **bees** from colonies with both small and large **parasite** populations showed aggressive behaviour (biting). No difference was observed according to whether the **mite** was dead or alive. Under natural conditions, **bees** uncapped more **parasitized** cells than control cells. Electroantennographic tests were performed to measure sensitivity to various **Varroa** extracts at three concentrations (10, 20 and 30 **Varroa** equivalents). Only 30 **Varroa** equivalent methanol extracts made from **Varroa** collected from brood cells elicited significantly greater antennal response than controls (pure solvent). All three methanol extracts elicited significantly greater antennal response than controls. No

response was observed using **Varroa** extracts made with **acetone** or hexane. These findings suggest that polar products may act as chemostimuli for recognition of *V. destructor* by honey **bees**. Further study will be necessary to determine which polar products are involved in this recognition and assess grooming and removal. . .

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; Western Europe; Europe; Mediterranean Region; Developed Countries; European Union Countries; OECD Countries; Varroidae; Mesostigmata; **mites**; **Acari**; Arachnida

ST **Varroa** destructor

ORGN **Apis** mellifera; **Varroa**

L7 ANSWER 17 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5

AN 2001:520275 CAPLUS

DN 135:103534

TI Determination of organophosphorus **pesticides** in **honeybees** after solid-phase microextraction

AU Fernandez, M.; Padron, C.; Marconi, L.; Ghini, S.; Colombo, R.; Sabatini, A. G.; Girotti, S.

CS Laboratori de Bromatologia i Toxicologia, Facultat de Farmacia, Universitat de Valencia, Burjassot, Valencia, 46100, Spain

SO Journal of Chromatography, A (2001), 922(1-2), 257-265
CODEN: JCRAEY; ISSN: 0021-9673

PB Elsevier Science B.V.

DT Journal

LA English

AB A method based on solid-phase microextn. (SPME) followed by gas chromatog. with nitrogen-phosphorus detection was developed for the purpose of detg. 18 organophosphorus **pesticide** residues in **honeybee** samples (**Apis** mellifera). The extn. capacities of polyacrylate and poly(dimethylsiloxane) fibers were compared. The main factors affecting the SPME process, such as the absorption time profile, salt, and temp., were optimized. The method involved **honeybee** sample homogenization, elution with an **acetone**:water soln. (1:1) and diln. in water prior to fiber extn. Moreover, the matrix effect on the extn. was evaluated. In samples spiked at the 0.2 mg kg⁻¹ level, the coeff. variation was between 1 and 13% and the detection limits were below 10 .mu.g kg⁻¹. The SPME procedure was found to be quicker and more cost-effective than the solvent extn. method commonly used. The method was applied successfully to environmental screening. Parathion Me was detected and confirmed in the real samples analyzed.

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Determination of organophosphorus **pesticides** in **honeybees** after solid-phase microextraction

AB A method based on solid-phase microextn. (SPME) followed by gas chromatog. with nitrogen-phosphorus detection was developed for the purpose of detg. 18 organophosphorus **pesticide** residues in **honeybee** samples (**Apis** mellifera). The extn. capacities of polyacrylate and poly(dimethylsiloxane) fibers were compared. The main factors affecting the SPME process, such as the absorption time profile, salt, and temp., were optimized. The method involved **honeybee** sample homogenization, elution with an **acetone**:water soln. (1:1) and diln. in water prior to fiber extn. Moreover, the matrix effect on the extn. was evaluated. In samples spiked at the 0.2 mg kg⁻¹ level, the coeff. variation was between 1 and 13% and the detection limits were below 10 .mu.g kg⁻¹. The SPME procedure was found to be quicker and more cost-effective than the solvent extn. method commonly used. The method was applied successfully to environmental screening. Parathion Me was detected and confirmed in the real samples analyzed.

ST organophosphorus **pesticides** **honeybee** SPME gas chromatog; solid phase microextn organophosphorus **pesticides**

IT **honeybee**
Gas chromatography
Honeybee
(detn. of organophosphorus **pesticides** in **honeybees**
after solid-phase microextn.)

IT **Pesticides**
(organophosphorus; detn. of organophosphorus **pesticides** in
honeybees after solid-phase microextn.)

IT Microextraction
(solid-phase; detn. of organophosphorus **pesticides** in
honeybees after solid-phase microextn.)

IT 56-38-2, Parathion ethyl 56-72-4, Coumaphos 121-75-5, Malathion
298-00-0, Parathion methyl 333-41-5, Diazinon 732-11-6, Phosmet
944-22-9, Fonofos 2104-96-3, Bromophos 2310-17-0, Phosalone
2597-03-7, Phenthoate 5598-13-0, Chlorpyrifos methyl 13457-18-6,
Pirazophos 13593-03-8, Quinalphos 23505-41-1, Pirimiphos ethyl
23560-59-0, Heptenophos 24017-47-8, Triazophos 29232-93-7, Pirimiphos
methyl
RL: ANT (Analyte); ANST (Analytical study)
(detn. of organophosphorus **pesticides** in **honeybees**
after solid-phase microextn.)

L7 ANSWER 18 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:493021 CAPLUS
DN 136:243278
TI Field evaluation of non-**pesticide** chemicals as honey **bee**
repellents

AU Mayer, D. F.; Lunden, J. D.; Kovacs, G.; Miliczky, E. R.
CS Department of Entomology, Irrigated Agriculture Research & Extension
Center, Washington State University, Prosser, WA, 99350, USA
SO Colloques - Institut National de la Recherche Agronomique (2001),
98(Hazards of Pesticides to Bees), 159-168
CODEN: COLIEZ; ISSN: 0293-1915
PB Institut National de la Recherche Agronomique
DT Journal
LA English

AB **Bee** poisoning from **pesticides** is a serious problem
worldwide. Major concern exists for the safety of honey **bees** (
Apis mellifera L.) as valuable pollinators of many horticultural
crops. One way of reducing the **pesticide** hazard to **bees**
is to apply a chem. repellent that will discourage **bees** from
foraging on crops for an interval after a **bee** hazard
pesticide has been applied. During 1990-1998, the authors
conducted field tests on blooming apples (*Malus domestica* Borkh.),
dandelions (*Taraxacum officinale* G. Weber, in Wiggers), buckwheat
(*officinale*) and white Dutch clover (*officinale*) plants to evaluate their
repellent effect to foraging honey **bees**. Evaluations were made
by slowly walking through the plots and counting the no. of honey
bees (30 s/6.7 m/0.91 m swath) except for apples where they were
counted by slowly moving around and counting the no. of honey **bees**
(30 s/1 tree) at 1 and 4 h. after application. The authors evaluated
about 240 non-**pesticide** chems. Eleven chems. significantly
reduced the no. of honey **bee** foragers at 1 h. after application
but not at 4 h. In some tests, but not all, 10 chems. significantly
reduced the no. of honey **bee** foragers at 1 h. after application
but not at 4 h. One chem. significantly reduced the no. of honey
bee foragers at 1 h. and 4 h. after application. In some tests,
but not all, 2 chems. significantly reduced the no. of honey **bee**
foragers at 4 h. after application but not at 1 h.

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Field evaluation of non-**pesticide** chemicals as honey **bee**

repellents

- AB **Bee** poisoning from **pesticides** is a serious problem worldwide. Major concern exists for the safety of honey **bees** (*Apis mellifera* L.) as valuable pollinators of many horticultural crops. One way of reducing the **pesticide** hazard to **bees** is to apply a chem. repellent that will discourage **bees** from foraging on crops for an interval after a **bee** hazard **pesticide** has been applied. During 1990-1998, the authors conducted field tests on blooming apples (*Malus domestica* Borkh.), dandelions (*Taraxacum officinale* G. Weber, in Wiggers), buckwheat (*officinale*) and white Dutch clover (*officinale*) plants to evaluate their repellent effect to foraging honey **bees**. Evaluations were made by slowly walking through the plots and counting the no. of honey **bees** (30 s/6.7 m/0.91 m swath) except for apples where they were counted by slowly moving around and counting the no. of honey **bees** (30 s/1 tree) at 1 and 4 h. after application. The authors evaluated about 240 non-**pesticide** chems. Eleven chems. significantly reduced the no. of honey **bee** foragers at 1 h. after application but not at 4 h. In some tests, but not all, 10 chems. significantly reduced the no. of honey **bee** foragers at 1 h. after application but not at 4 h. One chem. significantly reduced the no. of honey **bee** foragers at 1 h. and 4 h. after application. In some tests, but not all, 2 chems. significantly reduced the no. of honey **bee** foragers at 4 h. after application but not at 1 h.
- ST honey **bee** repellent
- IT Sauces (condiments)
(Barb-q-sauce; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Repellents
(Bird Shield repellent conc.; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Odor and Odorous substances
(Dr. Juice Fish Scent; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Odor and Odorous substances
(Fresh Scrape Urine Scent; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Garlic (*Allium sativum*)
(Garlic Barrier; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Waxes
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(Hot Pepper; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Repellents
(Hot Sauce Animal repellent; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Repellents
(Mol-Med Repellent; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Odor and Odorous substances
(Oak Cover Scent and Pine Cover Scent; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Deodorants
(Odor Eliminator, Odor Blaster; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Odor and Odorous substances
(Smelly Jelly; field evaluation of non-**pesticide** chems. as honey **bee** repellents)
- IT Sage (*Salvia*)
(Triple Strength Sage; field evaluation of non-**pesticide**

chems. as honey **bee** repellents)

IT Mephitinae
(Triple Strength Skunk; field evaluation of non-**pesticide**
chems. as honey **bee** repellents)

IT Soaps
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
(Biological study); USES (Uses)
(Ultra Dawn dish soap; field evaluation of non-**pesticide**
chems. as honey **bee** repellents)

IT Cucurbita foetidissima
(buffalo gourd; field evaluation of non-**pesticide** chems. as
honey **bee** repellents)

IT Essential oils
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
(Biological study); USES (Uses)
(cajuput; field evaluation of non-**pesticide** chems. as honey
bee repellents)

IT Repellents
(cat and dog repellents; field evaluation of non-**pesticide**
chems. as honey **bee** repellents)

IT Essential oils
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
(Biological study); USES (Uses)
(cedarwood; field evaluation of non-**pesticide** chems. as honey
bee repellents)

IT Essential oils
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
(Biological study); USES (Uses)
(cinnamon; field evaluation of non-**pesticide** chems. as honey
bee repellents)

IT Essential oils
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
(Biological study); USES (Uses)
(clove; field evaluation of non-**pesticide** chems. as honey
bee repellents)

IT Urine
(coyote; field evaluation of non-**pesticide** chems. as honey
bee repellents)

IT Fruit and vegetable juices
(cranberry; field evaluation of non-**pesticide** chems. as honey
bee repellents)

IT Food
(dyes, red food coloring; field evaluation of non-**pesticide**
chems. as honey **bee** repellents)

IT Fats and Glyceridic oils, biological studies
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
(Biological study); USES (Uses)
(evening primrose; field evaluation of non-**pesticide** chems.
as honey **bee** repellents)

IT Banana (Musa)
(ext.; field evaluation of non-**pesticide** chems. as honey
bee repellents)

IT Apple
Artemisia
Buckwheat (Fagopyrum esculentum)
Cinnamomum zeylanicum
Clover (Trifolium)
Dandelion
Eucalyptus radiata
Honeybee
Insect repellents
Lavender (Lavandula)

Molasses
 Ocimum basilicum
 Oregano
 Pepper (Piper nigrum)
 Peppermint (Mentha piperita)
 Rosemary
 Sorghum
 Thyme (Thymus)
 Ylang-ylang (Cananga odorata)
 (field evaluation of non-**pesticide** chems. as honey
 bee repellents)

IT Castor oil
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
 (Biological study); USES (Uses)
 (field evaluation of non-**pesticide** chems. as honey
 bee repellents)

IT Fats and Glyceridic oils, biological studies
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
 (Biological study); USES (Uses)
 (fish, Alaska; field evaluation of non-**pesticide** chems. as
 honey **bee** repellents)

IT Fats and Glyceridic oils, biological studies
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
 (Biological study); USES (Uses)
 (fish, Crockers Fish Oil; field evaluation of non-**pesticide**
 chems. as honey **bee** repellents)

IT Fats and Glyceridic oils, biological studies
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
 (Biological study); USES (Uses)
 (fish, Dexol Fish Oil; field evaluation of non-**pesticide**
 chems. as honey **bee** repellents)

IT Dyes
 (food, red food coloring; field evaluation of non-**pesticide**
 chems. as honey **bee** repellents)

IT Lipids, biological studies
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
 (Biological study); USES (Uses)
 (fungal; field evaluation of non-**pesticide** chems. as honey
 bee repellents)

IT Commiphora molmol
 (gammiphomolmol; field evaluation of non-**pesticide** chems. as
 honey **bee** repellents)

IT Cranberry
 Raspberry
 (juice; field evaluation of non-**pesticide** chems. as honey
 bee repellents)

IT Perfumes
 (myrrh; field evaluation of non-**pesticide** chems. as honey
 bee repellents)

IT Ajowan (Carum copticum)
 (oil; field evaluation of non-**pesticide** chems. as honey
 bee repellents)

IT Petroleum products
 (oils, Volck crop oil; field evaluation of non-**pesticide**
 chems. as honey **bee** repellents)

IT Essential oils
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
 (Biological study); USES (Uses)
 (pepper, Piper nigrum berry; field evaluation of non-**pesticide**
 chems. as honey **bee** repellents)

IT Fruit and vegetable juices
 (raspberry juice; field evaluation of non-**pesticide** chems. as

honey **bee** repellents)

IT Essential oils
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
 (rosemary, rosemarinus camphor; field evaluation of non-**pesticide** chems. as honey **bee** repellents)

IT Flavoring materials
 (smoke flavors, liq. smoke; field evaluation of non-**pesticide** chems. as honey **bee** repellents)

IT 107-92-6, Butyric acid, biological studies
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
 (Honey robber; field evaluation of non-**pesticide** chems. as honey **bee** repellents)

IT 34363-01-4
 RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
 (Nu-Film, Vapor Gard; field evaluation of non-**pesticide** chems. as honey **bee** repellents)

IT 54-12-6, Tryptophan 56-54-2, Quinidine 57-10-3, Palmitic acid, biological studies 57-11-4, Stearic acid, biological studies 60-24-2, 2-Mercaptoethanol 60-35-5, Acetamide, biological studies 64-10-8, Phenylurea 64-19-7, Acetic acid, biological studies 65-30-5 66-25-1, Hexanal 67-63-0, Isopropanol, biological studies 67-66-3, Chloroform, biological studies 67-68-5, Dimethyl sulfoxide, biological studies 71-23-8, Propanol, biological studies 71-36-3, 1-Butanol, biological studies 75-15-0, Carbon disulfide, biological studies 75-50-3, Trimethylamine, biological studies 75-65-0, 2-Methyl-2-propanol, biological studies 76-22-2, Camphor 78-70-6, Linalool **78-93-3**, **2-Butanone**, biological studies 79-16-3, N-Methylacetamide 79-31-2, Isobutyric acid 79-77-6, .beta.-Ionone 80-59-1, Tiglic acid 83-34-1, Skatole 84-66-2, Diethylphthalate 87-44-5 89-83-8, Thymol 90-02-8, Salicylaldehyde, biological studies 93-58-3, Methyl benzoate 94-96-2 95-48-7, o-Cresol, biological studies 97-53-0, Eugenol 99-03-6, 3'-Aminoacetophenone 99-76-3, p-Hydroxybenzoic acid methyl ester 100-41-4, Ethyl benzene, biological studies 100-52-7, Benzaldehyde, biological studies 101-31-5, 1-Hyoscyamine 103-83-3, Dimethylbenzylamine 104-75-6, 2-Ethylhexylamine **106-35-4**, **3-Heptanone** 106-44-5, p-Cresol, biological studies 106-65-0, Succinic acid dimethyl ester 106-68-3, 3-Octanone 107-06-2, 1,2-Dichloroethane, biological studies **107-87-9**, **2-Pentanone** 108-05-4, Vinyl acetate, biological studies 108-31-6, Maleic anhydride, biological studies 108-95-2, Phenol, biological studies 110-12-3, 5-Methyl-**2-hexanone** 110-13-4, 2,5-Hexanedione **110-43-0**, **2-Heptanone** 110-54-3, n-Hexane, biological studies 110-93-0, 6-Methyl-5-hepten-2-one **111-13-7**, **2-Octanone** 111-27-3, 1-Hexanol, biological studies 111-84-2, n-Nonane 111-87-5, 1-Octanol, biological studies 112-14-1, Octylacetate 112-17-4, n-Decylacetate 112-37-8, Undecanoic acid 112-39-0, Palmitic acid methyl ester 112-44-7, Undecanal 119-61-9, Benzophenone, biological studies 120-72-9, Indole, biological studies 122-79-2, Phenyl acetate 123-11-5, p-Anisaldehyde, biological studies **123-19-3**, **4-Heptanone** 123-72-8, Butyraldehyde 123-92-2, Isoamyl acetate 124-07-2, Caprylic acid, biological studies 125-12-2, Isobornyl acetate 133-06-2, Captan 135-19-3, .beta.-Naphthol, biological studies 136-45-8, MGK repellent 326 138-86-3, Limonene 140-11-4, Benzyl acetate 142-62-1, n-Caproic acid, biological studies 142-82-5, n-Heptane, biological studies 147-85-3, L-Proline, biological studies 147-93-3, o-Mercaptobenzoic acid 328-50-7, .alpha.-Ketoglutaric acid 331-39-5, Caffeic acid 334-48-5, Capric acid 458-37-7, Curcumin 470-82-6, Cineole 471-34-1, Calcium

carbonate, biological studies 488-10-8, Jasmone 490-79-9,
 2,5-Dihydroxybenzoic acid 499-75-2, Carvacrol 502-49-8, Cyclooctanone
 506-12-7, Heptadecanoic acid 507-70-0, Borneol 540-84-1,
 2,2,4-Trimethylpentane 544-63-8, Tetradecanoic acid, biological studies
 546-49-6, Artemisia ketone 551-93-9, 2'-Aminoacetophenone 614-18-6,
 Ethyl nicotinate 624-92-0, Methyl disulfide 629-19-6, n-Propyl
 disulfide 638-53-9, Tridecanoic acid 705-86-2, .delta.-Decalactone
 941-98-0, 1'-Acetonaphthone 1330-43-4, Sodium tetraborate 1337-83-3,
 Aldenal C 11 1596-84-5, Succinic acid 2,2-dimethylhydrazide 2016-57-1,
 Decylamine 2039-88-5, 2-Bromostyrene 2186-92-7, Anisaldehyde
 dimethylacetal 2315-68-6, n-Propyl benzoate 3391-86-4, 1-Octen-3-ol
 3796-70-1, Geranylacetone 4602-84-0, Farnesol 7620-46-4,
 9-Isothiocyanato acridine 7664-38-2, Phosphoric acid, biological studies
 7704-34-9, Microthiol, biological studies 9004-99-3 12240-15-2,
 Prussian Blue 14371-10-9, trans-Cinnamaldehyde 20244-19-3
 23422-53-9, Carzol 92SP 24804-31-7, Calcium oxalate hydrate
 25414-22-6, 2-Methoxyfuran 27941-88-4, Amino acetophenone 36653-82-4,
 1-Hexadecanol 41446-60-0, cis-7-Tetradecene 62242-52-8, Hexadecanone
 70802-40-3 74214-63-4, .beta.-Carboline-3-carboxylic acid 90823-38-4,
 Ro-Pel 116580-64-4, Margosan O 138261-41-3, NTN 33893-240FS
 143350-75-8, Kinetic 404578-56-9, Algafer LPF 404580-56-9, Baitmate
 404580-58-1, Can 17 404580-65-0, Compensol 404580-79-6, N-O-Dor II
 404581-66-4, AeroSpray 404582-04-3, Epoleon N 100 404582-84-9,
 Scent-A-Way 404582-85-0, Sun Shield 404582-89-4, Terramark SPI
 404582-90-7, Super Pepper Guard 404582-91-8, Free Shield 404582-94-1,
 Frost Shield 404583-18-2, Fruit Boost 404583-20-6, Nutra-sol
 404584-91-4, Get Off My Garden 404585-84-8, Uran 32 404586-91-0, X-O
 Deodorizer 404586-92-1, XP 201 404586-93-2, Y-Guard 404587-06-0,
 U-V-Killer

RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL
 (Biological study); USES (Uses)

(field evaluation of non-**pesticide** chems. as honey
bee repellents)

L7 ANSWER 19 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6

AN 2001:376466 CAPLUS

DN 135:43838

TI Semiochemicals from larval food affect the locomotor behavior of
Varroa destructor

AU Nazzi, Francesco; Milani, Norberto; Della Vedova, Giorgio; Nimis, Matteo
 CS Dipartimento di Biologia applicata alla Difesa delle Piante, Universita di
 Udine, Udine, 33100, Italy

SO Apidologie (2001), 32(2), 149-155

CODEN: APDGB5; ISSN: 0044-8435

PB EDP Sciences

DT Journal

LA English

AB The stimuli inducing cell invasion by **Varroa** destructor were
 studied using a bioassay in which a **mite** was obsd. in a glass
 arena with four wells, each contg. a live **bee** (**Apis**
 mellifera) larva, treated or not with the stimulus to be tested. Larval
 food collected from drone cells before capping elicited a strong response
 from V. destructor. Both ether and **acetone** exts. of larval food
 induced the same response as larval food itself suggesting the existence
 of semiochems. attracting or arresting the **mite**.

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Semiochemicals from larval food affect the locomotor behavior of
Varroa destructor

AB The stimuli inducing cell invasion by **Varroa** destructor were
 studied using a bioassay in which a **mite** was obsd. in a glass
 arena with four wells, each contg. a live **bee** (**Apis**

mellifera) larva, treated or not with the stimulus to be tested. Larval food collected from drone cells before capping elicited a strong response from V. destructor. Both ether and **acetone** exts. of larval food induced the same response as larval food itself suggesting the existence of semiochems. attracting or arresting the **mite**.

ST semiochem **bee** larva food locomotor behavior **Varroa**;
parasite invasion **bee** hive semiochem

IT Behavior
 (locomotor; semiochems. from larval food affect locomotor behavior of **Varroa** destructor)

IT **Honeybee**
Varroa destructor
 (semiochems. from larval food affect locomotor behavior of **Varroa** destructor)

IT Semiochemicals
 RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
 (semiochems. from larval food affect locomotor behavior of **Varroa** destructor)

IT 112-39-0, Methyl palmitate
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (semiochems. from larval food affect locomotor behavior of **Varroa** destructor)

L7 ANSWER 20 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:493013 CAPLUS
 DN 136:114027
 TI Effects of wetting agent selection on the contact toxicity of a dimethoate formulation to **honeybees**
 AU Thompson, H. M.
 CS National Bee Unit, CSL, York, YO41 1LZ, UK
 SO Colloques - Institut National de la Recherche Agronomique (2001), 98(Hazards of Pesticides to Bees), 79-81
 CODEN: COLIEZ; ISSN: 0293-1915
 PB Institut National de la Recherche Agronomique
 DT Journal
 LA English
 AB A range of wetting agents are suggested by OECD Guideline 214 for assessing the contact toxicity of **pesticides** to **honeybees**. This study aimed to det. the effect of wetting agent selection on the contact toxicity of an EC formulation of dimethoate. A no. of wetting agents were used; Triton X100, Tween 20, Igepal, Span 20, Brij 35 and polyoxyethylene W1 all at 1 g/l and the results compared with dimethoate formulation dissolved in **acetone**. All dilns. were prepd. within two hours of use, except Triton X100 and **acetone** where an addnl. set of dilns. were prepd. 16 h in advance. All **bees** were dosed in groups of ten with 3 replicates per dose at dose levels of 0.25, 0.125 and 0.063 .mu.g a.i. dimethoate/**bee**. All tests were run concurrently with a wetting agent control (30 **bees**) to provide data on the toxicity of the wetting agent alone.. Mortality was assessed at 4, 24 and 48 h after dosing and probit anal. performed to det. the 48 h LD50, 95% confidence limits and slope of the dose-response. The results of this study are presented and the effects on choice of wetter agent discussed.

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Effects of wetting agent selection on the contact toxicity of a dimethoate formulation to **honeybees**

AB A range of wetting agents are suggested by OECD Guideline 214 for assessing the contact toxicity of **pesticides** to

honeybees. This study aimed to det. the effect of wetting agent selection on the contact toxicity of an EC formulation of dimethoate. A no. of wetting agents were used; Triton X100, Tween 20, Igepal, Span 20, Brij 35 and polyoxyethylene W1 all at 1 g/l and the results compared with dimethoate formulation dissolved in **acetone**. All dilns. were prepd. within two hours of use, except Triton X100 and **acetone** where an addnl. set of dilns. were prepd. 16 h in advance. All **bees** were dosed in groups of ten with 3 replicates per dose at dose levels of 0.25, 0.125 and 0.063 .mu.g a.i. dimethoate/**bee**. All tests were run concurrently with a wetting agent control (30 **bees**) to provide data on the toxicity of the wetting agent alone. Mortality was assessed at 4, 24 and 48 h after dosing and probit anal. performed to det. the 48 h LD50, 95% confidence limits and slope of the dose-response. The results of this study are presented and the effects on choice of wetter agent discussed.

ST **honeybee** wetting agent **pesticide** toxicity

IT Death

Honeybee

Wetting agents

(effects of wetting agent selection on the contact toxicity of a dimethoate formulation to **honeybees**)

IT Polyoxyalkylenes, biological studies

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)

(effects of wetting agent selection on the contact toxicity of a dimethoate formulation to **honeybees**)

IT **Pesticides**

(toxicity; effects of wetting agent selection on the contact toxicity of a dimethoate formulation to **honeybees**)

IT 9016-45-9

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)

(Igepal; effects of wetting agent selection on the contact toxicity of a dimethoate formulation to **honeybees**)

IT 60-51-5, Dimethoate 1338-39-2, Span 20 9002-92-0, Brij 35 9002-93-1, Triton X100 9005-64-5, Tween 20 25322-68-3

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)

(effects of wetting agent selection on the contact toxicity of a dimethoate formulation to **honeybees**)

L7 ANSWER 21 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2001-84002 CROPU I F H Q R L

TI Specialty crops. Chemicals and clearances.

AU ---

LO USA

SO Farm Chem. (164, No. 3, 44-51, 2001)

CODEN: FARCAC

DT Journal

LA English

FA AB; LA; CT

AB New products and label changes for stone, citrus, soft and pomaceous fruit and vegetable crops in the USA are reviewed. Label changes, including extensions and maximum use rates, are listed for: Stimplex Crop Biostimulant, Galltrol-A Crown Gall Preventive, Sovran (kresoxim methyl), SpinTor 2SC Naturalyte and Tracer Naturalyte (both spinosad), Drexel diazinon 50W, Mycotrol O (Beauveria bassiana), Valero, Mesa, Cytokin Bioregulator Concentrate, CytoPlex HMS, Confirm (tebufenozide), Nova and Rally (both myclobutanil), Abound (azoxystrobin), Agri-Mek (avermectin B1), Bravo (chlorothalonil), Fulfill (pymetrozine), Proclaim (emamectin), Ridomil Gold EC (metalaxyl-M), Elevate (fenhexamid), Omite/Comite (propargite), Di/Tera ES (Myrothecium verrucaria) and Soil Triggrrr PGR (cytokinin).

AB. . . Mycotrol O (Beauveria bassiana), Valero, Mesa, Cytokin Bioregulator Concentrate, CytoPlex HMS, Confirm (tebufenozide), Nova and Rally (both

myclobutanil), Abound (azoxystrobin), Agri-Mek (avermectin B1),
 Bravo (chlorothalonil), Fulfill (pymetrozine), Proclaim (emamectin),
 Ridomil Gold EC (metalaxyl-M), Elevate (fenhexamid), Omite/Comite
 (propargite), Di/Tera ES (Myrothecium verrucaria). . .
 ABEX. . . O (all states except Hawaii), Cytokin Bioregulator Concentrate and
 CytoPlex HMS (on all crops), Confirm (emergency use on California
 grapes), Agri-Mek (California grapes), Bravo (section 2(ee)
 recommendation on beans in California), Proclaim (California cole,
 lettuce and celery) and Ridomil Gold EC. . . (thiophanate + mancozeb +
 imidacloprid), Prozap Zinc Oat Bait and Pellets (both zinc phosphide),
 Pollination Enhancement Fruit Boost with QMP (bee pheromone),
 Gavel (zoxamide), Elexa (chitosan), Blockade (acibenzolar S-methyl),
 Switch (fludioxonil + cyprodinil), Deliver (Bacillus thuringiensis
 kurstaki) and Knack (pyriproxyfen). (AL). . .
 CT. . . ALFALFA *TR; PEANUT *TR; STRAWBERRY *TR; RASPBERRY *TR; BLACKBERRY
 *TR; CRANBERRY *TR; ALMOND *TR; WALNUT *TR; PECAN *TR; NECTARINE *TR;
PLUM *TR; TIMOTHY *TR; CLOVER *TR; WHEAT *TR; BARLEY *TR;
 SUGAR-BEET *TR; KIWIFRUIT *TR; PISTACHIO *TR; ASPARAGUS *TR; LETTUCE
 *TR; SPINACH. . .

L7 ANSWER 22 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 2000-524406 [47] WPIDS
 DNC C2000-155765
 TI 4-Methoxy-2,3,5,6-tetrafluorobenzyl 3-(2,2-difluorovinyl)-2,2-
 dimethylcyclopropanecarboxylate, useful as a **pesticide**.
 DC C03 D22
 IN IWASAKI, T; MATSUO, N
 PA (SUMO) SUMITOMO CHEM CO LTD
 CYC 89
 PI WO 2000046178 A1 20000810 (200047)* EN 35p
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
 OA PT SD SE SL SZ TZ UG ZW
 W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES
 FI GB GD GE GH GM HR HU ID IL IN IS KE KG KR KZ LC LK LR LS LT LU
 LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
 TR TT TZ UA UG US UZ VN YU ZA ZW
 JP 2000229914 A 20000822 (200055) 9p
 AU 2000018913 A 20000825 (200059)
 ADT WO 2000046178 A1 WO 2000-JP28 20000106; JP 2000229914 A JP 1999-28891
 19990205; AU 2000018913 A AU 2000-18913 20000106
 FDT AU 2000018913 A Based on WO 2000046178
 PRAI JP 1999-28891 19990205
 AB WO 2000046178 A UPAB: 20000925
 NOVELTY - 4-Methoxy-2,3,5,6-tetrafluorobenzyl 3-(2,2-difluorovinyl)-2,2-
 dimethylcyclopropanecarboxylate (I) is new.
 DETAILED DESCRIPTION - 4-Methoxy-2,3,5,6-tetrafluorobenzyl
 3-(2,2-difluorovinyl)-2,2-dimethylcyclopropanecarboxylate of formula (I)
 is new.
 An INDEPENDENT CLAIM is made for **pesticidal** compositions
 comprising (I) and a carrier.
 ACTIVITY - **Pesticide**, insecticide, **acaricide**;
 insect repellent.
 MECHANISM OF ACTION - None given.
 USE - Useful as a **pesticide**, insecticide and
acaricide for killing repelling and controlling the spread of
 lepidoptera (moths), diptera (flies), dictyoptera (cockroaches),
 hymeoptera (ants, wasps and **bees**), siphonaptera e.g. Pulex
 irritans, anoplura (lice), isoptera (termites), **acarina** (
mites and ticks), hemiptera (aphids), coleoptera (beetles and
 weevils), thysanoptera (thrips) and orthoptera (locusts).
 ADVANTAGE - More effective broad spectrum **pesticide** than
 other ester **pesticides**. (I) (0.002 vol. %) in **acetone**

(0.64 ml) was placed in an aluminum dish and was air dried. Ten female mosquitoes in a cup covered with 16-mesh Nylon (RTM) were placed mesh side down onto the treated aluminum surface at 25 deg. C for 2 hours. The cup was then removed and the insects were fed and watered for 24 hours. The mortality after 24 hours was 100 %. A comparable test with an conventional ester as per EP378026A gave a 24 hour mortality rate of 35 %.

Dwg.0/0

TI 4-Methoxy-2,3,5,6-tetrafluorobenzyl 3-(2,2-difluorovinyl)-2,2-dimethylcyclopropanecarboxylate, useful as a **pesticide**.

AB . . .
is new.

DETAILED DESCRIPTION - 4-Methoxy-2,3,5,6-tetrafluorobenzyl 3-(2,2-difluorovinyl)-2,2-dimethylcyclopropanecarboxylate of formula (I) is new.

An INDEPENDENT CLAIM is made for **pesticidal** compositions comprising (I) and a carrier.

ACTIVITY - **Pesticide**, insecticide, **acaricide**; insect repellent.

MECHANISM OF ACTION - None given.

USE - Useful as a **pesticide**, insecticide and **acaricide** for killing repelling and controlling the spread of lepidoptera (moths), diptera (flies), dictyoptera (cockroaches), hymenoptera (ants, wasps and **bees**), siphonaptera e.g. Pulex irritans, anoplura (lice), isoptera (termites), **acarina** (mites and ticks), hemiptera (aphids), coleoptera (beetles and weevils), thysanoptera (thrips) and orthoptera (locusts).

ADVANTAGE - More effective broad spectrum **pesticide** than other ester **pesticides**. (I) (0.002 vol. %) in **acetone** (0.64 ml) was placed in an aluminum dish and was air dried. Ten female mosquitoes in a cup covered with. . .

TT TT: METHOXY USEFUL **PEST**.

L7 ANSWER 23 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-099724 [09] WPIDS

DNC C2000-029133

TI Method to control **parasitic mites** on beneficial insects e.g. Apidae.

DC B03 C02

IN BAUMBACH, W R; BELUCH, M P; BLACK, B C

PA (AMCY) AMERICAN CYANAMID CO

CYC 27

PI EP 972448 A2 20000119 (200009)* EN 4p

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI

CA 2277487 A1 20000114 (200026) EN

MX 9906531 A1 20000301 (200123)

ADT EP 972448 A2 EP 1999-305410 19990707; CA 2277487 A1 CA 1999-2277487
19990712; MX 9906531 A1 MX 1999-6531 19990713

PRAI US 1998-115787 19980714

AB EP 972448 A UPAB: 20000218

NOVELTY - A method for the protection of beneficial insects from infestation and damage caused by **parasitic mites** which comprises applying tebufenpyrad to the insects or **mites**, their brood chamber or habitat.

ACTIVITY - Antiparasitic; **Acaricide**. **Apis mellifera** (honey **bees**) infested with 70-90% **Varroa jacobsoni** (**varroa mites**) were treated with a 1 mu l droplet of tebufenpyrad in **acetone** (50-52 **bees** were treated per dosage). The treated **bees** were placed in an incubator at 31 deg. C in the dark and fed a 50% sugar solution for 5 days. A dosage of 0.6 mu g gave a mortality rate for **bees** of 28% and for **mites** 92%.

MECHANISM OF ACTION - None given.

USE - To control **parasitic mites** on beneficial insects and to protect the insects against infestation by the **mites**.

ADVANTAGE - The method can be used with little or no concomitant harm to the beneficial host.

Dwg.0/0

TI Method to control **parasitic mites** on beneficial insects e.g. Apidae.

AB . . . 972448UPAB: 20000218

NOVELTY - A method for the protection of beneficial insects from infestation and damage caused by **parasitic mites** which comprises applying tebufenpyrad to the insects or **mites**, their brood chamber or habitat.

ACTIVITY - Antiparasitic; **Acaricide. Apis mellifera** (honey **bees**) infested with 70-90% **Varroa jacobsoni** (**varroa mites**) were treated with a 1 mu l droplet of tebufenpyrad in **acetone** (50-52 **bees** were treated per dosage). The treated **bees** were placed in an incubator at 31 deg. C in the dark and fed a 50% sugar solution for 5 days. A dosage of 0.6 mu g gave a mortality rate for **bees** of 28% and for **mites** 92%.

MECHANISM OF ACTION - None given.

USE - To control **parasitic mites** on beneficial insects and to protect the insects against infestation by the **mites**.

ADVANTAGE - The method can be used with little or no concomitant harm to the beneficial host.

Dwg.0/0

TECH UPTX: 20000218

TECHNOLOGY FOCUS - AGRICULTURE - Preferred Method: The beneficial insects are Apidae, preferably **Apinae**, **Euglossinae** or **bombinae**. The **parasitic mites** are **Varroa jacobsoni**, **Acarapis woodi** and **Tropilaelaps clareae**.

TT TT: METHOD CONTROL **PARASITIC MITE** BENEFICIAL INSECT.

L7 ANSWER 24 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-099723 [09] WPIDS

DNC C2000-029132

TI Method to control **parasitic** and saprophagous **mite** control on beneficial insects e.g. honey **bees**.

DC B03 C02

IN BAUMBACH, W R; BELUCH, M P; BLACK, B C; BAUMBACH, R W

PA (AMCY) AMERICAN CYANAMID CO; (BADI) BASF AG

CYC 27

PI EP 972447 A2 20000119 (200009)* EN 8p

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI

CA 2277719 A1 20000114 (200026) EN

MX 9906094 A1 20000801 (200137)

EP 972447 B1 20030502 (200330) EN

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
DE 69907325 E 20030605 (200345)

ADT EP 972447 A2 EP 1999-305549 19990713; CA 2277719 A1 CA 1999-2277719
19990712; MX 9906094 A1 MX 1999-6094 19990628; EP 972447 B1 EP 1999-305549
19990713; DE 69907325 E DE 1999-607325 19990713, EP 1999-305549 19990713

FDT DE 69907325 E Based on EP 972447

PRAI US 1998-115091 19980714

AB EP 972447 A UPAB: 20000218

NOVELTY - A method for the protection of beneficial insects from infestation or saprophagous **mites** comprises applying to the

insects, their breeding ground or habitat, a **parasitically** effective amount of a mitochondrial electron transport inhibitor or a pyrimidine (I).

DETAILED DESCRIPTION - A method for the protection of beneficial insects from infestation or saprophagous **mites** comprises applying to the insects or **mites**, their breeding ground or habitat, a **parasitically** effective amount of a mitochondrial electron transport inhibitor or a pyrimidine of formula (I).

X1, X2 = O, S(O)n, CO, CH2, or NR;

n = 0-2;

R = H, 1-6C alkyl;

R1, R10 = H or halogen;

R2, R9 = H, halogen, CN, NO2, 1-6C haloalkyl, 1-6C alkoxy, 1-6C alkylthio, NR11R12, 1-6C alkoxycarbonyl or 1-6C alkyl (optionally substituted by 1 or more 1-4C alkoxy or 1-4C haloalkoxy);

R11, R12 = 1-6C alkyl, H;

R3, R8 = H, Cl, CN, NO2, 1-6C haloalkyl, 2-6C haloalkenyl; 2-6C haloalkynyl, 1-6C haloalkoxy, 1-6C haloalkylthio, 1-6C haloalkylsulfinyl, 1-6C haloalkylsulfonyl, 1-6C haloalkoxycarbonyl, 1-6C alkyl (optionally substituted with 1 or more alkoxy groups);

R4, R7 = H, halogen, CN, 1-6C alkyl, 1-6C alkoxy;

R5 = H, halogen, CN, 1-6C alkyl, 1-6C haloalkyl, 1-6C alkoxy, 1-6C alkylthio, 1-6C alkylsulfinyl or phenyl; and

R6 = H, 1-6C alkyl, provided that when R6 is 1-6C alkyl, then R5 = H.

ACTIVITY - Antiparasitic; Antihelmintic. The efficiency of (I) against **Varroa jacobsoni** **parasites** (70% infestation) on **Apis mellifera** (honey **bees**) was evaluated by applying 4-(alpha , alpha , alpha ,4-tetrafluoro-N-methyl-m-toluidino)-6-((alpha , alpha , alpha ,4-tetrafluoro-m-tolyl)oxy)pyrimidine (sic) in **acetone** 1 mu l to the **bees** (50-52 **bees** were treated with each dose). The **bees** were placed in an incubator at 31 deg. C in the dark and fed sugar water for 5 days. When the dose applied was 8.0 mu g/bee the mortality rate for **bees** was 13% and the **parasites** 100%.

MECHANISM OF ACTION - None given.

USE - For the control of **parasitic** or saprophagous **mites** on beneficial insects.

ADVANTAGE - The method gives selective control of **parasitic** and saprophagous **mites** on beneficial insects and gives them protection from infestation and damage from the **mites**, with little or no concomitant harm to the beneficial insect.
Dwg.0/0

TI Method to control **parasitic** and saprophagous **mite** control on beneficial insects e.g. honey **bees**.

AB EP 972447 UPAB: 20000218

NOVELTY - A method for the protection of beneficial insects from infestation or saprophagous **mites** comprises applying to the insects, their breeding ground or habitat, a **parasitically** effective amount of a mitochondrial electron transport inhibitor or a pyrimidine (I).

DETAILED DESCRIPTION - A method for the protection of beneficial insects from infestation or saprophagous **mites** comprises applying to the insects or **mites**, their breeding ground or habitat, a **parasitically** effective amount of a mitochondrial electron transport inhibitor or a pyrimidine of formula (I).

X1, X2 = O, S(O)n, CO, . . . provided that when R6 is 1-6C alkyl, then R5 = H.

ACTIVITY - Antiparasitic; Antihelmintic. The efficiency of (I) against **Varroa jacobsoni** **parasites** (70% infestation) on **Apis mellifera** (honey **bees**) was evaluated by applying 4-(alpha , alpha , alpha ,4-tetrafluoro-N-methyl-m-toluidino)-6-((alpha , alpha , alpha ,4-tetrafluoro-m-tolyl)oxy)pyrimidine (sic) in

acetone 1 mu l to the bees (50-52 bees were treated with each dose). The bees were placed in an incubator at 31 deg. C in the dark and fed sugar water for 5 days. When the dose applied was 8.0 mu g/bee the mortality rate for bees was 13% and the parasites 100%.

MECHANISM OF ACTION - None given.

USE - For the control of parasitic or saprophagous mites on beneficial insects.

ADVANTAGE - The method gives selective control of parasitic and saprophagous mites on beneficial insects and gives them protection from infestation and damage from the mites, with little or no concomitant harm to the beneficial insect.

Dwg.0/0

TECH.

from pyrazole carboxamides, quinones, thioureas, quinazolines, pyridazinones and pyrimidinamines. The beneficial insects are Hymenoptera (especially Apidae), Diptera or Lepidoptera. The parasitic mites are Varroa jacobsoni, Acarapis woodi and Tropilaelaps clareae.

TT TT: METHOD CONTROL PARASITIC MITE CONTROL BENEFICIAL INSECT HONEY BEE.

L7 ANSWER 25 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-90378 CROPU C G I

TI 4-Methoxy-2,3,5,6-tetrafluorobenzyl 3-(2,2-difluorovinyl) 2,2-dimethyl cyclopropanecarboxylate, useful as a pesticide.

IN Iwasaki T; Matsuo N

PA Sumitomo

LO Osaka, Jap.

PI WO 2000046178 A1 20000810

AI JP 1999-28891 19990205

WO 2000-JP28 20000106

DT Patent

LA English

OS WPI: 2000-524406

FA AB; LA; CT; MPC

AB A new difluorovinyl pyrethrin analog (I) is claimed as a pesticide. The compound was prepared as (1R), (1RS) and (1S) isomers, characterized by PMR data, and formulated e.g. as an emulsifiable concentrate containing 20% (wt) (I), 65% xylene and 15% Sorpol 3005X. In an example, (I) (0.002 vol%) in acetone (0.64 ml) was placed in an aluminum dish and was air dried. Ten female mosquitoes (Culex pipiens pallens) were placed in a cup covered with 16-mesh nylon, which was placed mesh side down onto the treated aluminum surface at 25 deg for 2 hr. The cup was then removed and the insects were fed and watered for 24 hr. The mortality after 24 hr was 100%. A comparable test with a prior art ester gave a 24 hr mortality rate of 35%. The knockdown rate (60 min) was 100%. The agent also showed activity against Tineola bisselliella in a polyethylene cup.

TI 4-Methoxy-2,3,5,6-tetrafluorobenzyl 3-(2,2-difluorovinyl) 2,2-dimethyl cyclopropanecarboxylate, useful as a pesticide.

AB A new difluorovinyl pyrethrin analog (I) is claimed as a pesticide. The compound was prepared as (1R), (1RS) and (1S) isomers, characterized by PMR data, and formulated e.g. as an emulsifiable concentrate containing 20% (wt) (I), 65% xylene and 15% Sorpol 3005X. In an example, (I) (0.002 vol%) in acetone (0.64 ml) was placed in an aluminum dish and was air dried. Ten female mosquitoes (Culex pipiens pallens) were placed. . .

ABEX The compound is claimed as a pesticide, insecticide, acaricide and insect repellent. It is claimed to kill, repel and control the spread of Lepidoptera (moths), Diptera (flies), Dictyoptera (cockroaches), Hymenoptera (ants, wasps and bees), Siphonaptera

e.g. *Pulex irritans*, Anoplura (lice), Isoptera (termites), **Acarina** (mites and ticks), Hemiptera (aphids), Coleoptera (beetles and weevils), Thysanoptera (thrips) and Orthoptera (locusts). It is a more effective broad spectrum **pesticide** than other ester **pesticides**. (35)

L7 ANSWER 26 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2000-84096 CROPU I G
TI Method to control **parasitic mites** on beneficial insects e.g. Apidae.
IN Black B C; Baubach W R; Beluch M P
PA Am.Cyanamid
LO Madison, N.J., USA
PI EP 972448 A2 20000119
AI US 1998-115787 19980714
EP 1999-305410 19990707
DT Patent
LA English
OS WPI: 2000-099724
FA AB; LA; CT
AB A method for the protection of beneficial insects, such as **honeybees**, from infestation and damage caused by **parasitic mites**, by application of tebufenpyrad (TEB) to the insects or **mites**, their brood chamber or habitat, is claimed. In **acaricidal** bioassays, **honeybees** infested with 70-90% *Varroa jacobsoni* received topical application of TEB (0.006, 0.06 and 0.6 ug/bee). Treated **bees** were placed in an incubator at 31 deg in the dark and fed a 50% sugar solution for 5 days; at 0.6 ug/bee, mortality rates for **bees** and **mites** were 28% and 92%, resp. **Honeybees** infested with *Acarapis woodi* were treated with 500 ppm TEB in **acetone**; 100% **mite** mortality occurred after 8-8.5 min. Field tests with two *V. jacobsoni* infested hives, sticky boards treated with 18% TEB in beeswax/lard base were placed in the hives; one day after treatment, **mite** counts of 1777 and 1080 **mites/day** were recorded.
TI Method to control **parasitic mites** on beneficial insects e.g. Apidae.
AB A method for the protection of beneficial insects, such as **honeybees**, from infestation and damage caused by **parasitic mites**, by application of tebufenpyrad (TEB) to the insects or **mites**, their brood chamber or habitat, is claimed. In **acaricidal** bioassays, **honeybees** infested with 70-90% *Varroa jacobsoni* received topical application of TEB (0.006, 0.06 and 0.6 ug/bee). Treated **bees** were placed in an incubator at 31 deg in the dark and fed a 50% sugar solution for 5 days; at 0.6 ug/bee, mortality rates for **bees** and **mites** were 28% and 92%, resp. **Honeybees** infested with *Acarapis woodi* were treated with 500 ppm TEB in **acetone**; 100% **mite** mortality occurred after 8-8.5 min. Field tests with two *V. jacobsoni* infested hives, sticky boards treated with 18% TEB in beeswax/lard base were placed in the hives; one day after treatment, **mite** counts of 1777 and 1080 **mites/day** were recorded.
ABEX The method is claimed especially for the control of **parasitic mites**, such as, *V. jacobsoni*, *A. woodi* and *Tropilaelaps clareae*. The claimed advantage is that the method can be used with. . .
CT TEBUFENPYRAD *TR; BEE *TR; APIS *TR; APIDAE *TR;
VARROA *TR; JACOBSONI *TR; ACARAPIS *TR; WOODI *TR;
HYMENOPTERA *TR; TARSONEMIDAE *TR; ACARINA *TR; MK-239 *RN;
ACARICIDE *FT; TOPICAL *FT; DOSAGE *FT; BIOASSAY *FT;
FORMULATION *FT; WAX *FT; LARD *FT; STICKY *FT; BOARD *FT; HIVE *FT;

- L7 ANSWER 27 OF 85 CABA COPYRIGHT 2004 CABI on STN
AN 2000:15353 CABA
DN 20001104998
TI Purification, characterisation, and inhibition by monoterpenes of
acetylcholinesterase from the waxmoth, *Galleria mellonella* (L.)
AU Keane, S.; Ryan, M. F.
CS Department of Zoology, University College Dublin, Belfield, Dublin 4,
Irish Republic.
SO Insect Biochemistry and Molecular Biology, (1999) Vol. 29, No. 12, pp.
1097-1104. 38 ref.
ISSN: 0965-1748
DT Journal
LA English
ED Entered STN: 20000208
Last Updated on STN: 20000208
AB Acetylcholinesterase (AChE) was purified from the brain of *G. mellonella*
by affinity chromatography followed by anion exchange chromatography. It
resolved as a single band by polyacrylamide gel electrophoresis (PAGE)
both non-denaturing and SDS (silver stained), and as a single peak by high
pressure liquid chromatography (HPLC), in an overall yield of 32%
representing 283-fold purification. This was a true acetylcholinesterase,
with no activity as a non-specific cholinesterase (butyrylcholinesterase).
The molecular weight determined by PAGE in the absence and presence of
sodium dodecyl sulphate (SDS) was ca. 240,000 Da and 60,000 Da
respectively, indicating an arrangement of tetrameric subunits. 2
-**Heptanone**, the **honeybee** alarm pheromone, reversibly
and competitively inhibited the purified *Galleria* AChE with a K_i value of
 1.34×10^{-3} M. Furthermore, five monoterpenes associated with plant defence
and representing a range of functional groups, also were reversible
competitive inhibitors of the purified AChE from *Galleria*, which is
consistent with previous data for electric eel AChE.
AB . . . presence of sodium dodecyl sulphate (SDS) was ca. 240,000 Da and
60,000 Da respectively, indicating an arrangement of tetrameric subunits.
2-**Heptanone**, the **honeybee** alarm pheromone,
reversibly and competitively inhibited the purified *Galleria* AChE with a
 K_i value of 1.34×10^{-3} M. Furthermore, five monoterpenes. . .
CT acetylcholinesterase; characterization; monoterpenes; alarm pheromones;
electrophoresis; **honey bees**; purification; insect **pests**
; biochemistry; enzymes; agricultural entomology
- L7 ANSWER 28 OF 85 CABA COPYRIGHT 2004 CABI on STN
AN 1998:62020 CABA
DN 19980200458
TI Determination of the fungicide vinclozolin in honey and **bee**
larvae by solid-phase and solvent extraction with gas chromatography and
electron-capture and mass spectrometric detection
AU Bernal, J. L.; Nozal, M. J. del; Rivera, J. M.; Jimenez, J. J.; Atienza,
J.
CS Department of Analytical Chemistry, Faculty of Sciences, University of
Valladolid, Prado de la Magdalena s/n, E-47005, Valladolid, Spain.
SO Journal of Chromatography, (1996) Vol. 754, No. 102, pp. 507-513. Bb.
ISSN: 0021-9673
DT Journal
LA English
ED Entered STN: 19980512
Last Updated on STN: 19980512
AB Methods for the determination of vinclozolin in honey and in honey
bee larvae are proposed. The fungicide can be extracted with an
n-hexane/**acetone** (70:30 vol/vol) mixture, or by passage through

octadecylsilane (ODS) cartridges. Clean-up procedures (chromatography on Florisil or ODS columns) are described. Vinclozolin is quantified by capillary GC with electron-capture and MS detection. Recoveries from spiked samples (25 mg/kg) exceeded 90%.

TI Determination of the fungicide vinclozolin in honey and **bee** larvae by solid-phase and solvent extraction with gas chromatography and electron-capture and mass spectrometric detection.

AB Methods for the determination of vinclozolin in honey and in honey **bee** larvae are proposed. The fungicide can be extracted with an n-hexane/acetone (70:30 vol/vol) mixture, or by passage through octadecylsilane (ODS) cartridges. Clean-up procedures (chromatography on Florisil or ODS columns) are described.. . .

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals

CT fungicides; nontarget effects; honey; **pesticide** residues; vinclozolin; analytical methods; gas chromatography; honey **bees**; larvae

ORGN **Apis** mellifera

L7 ANSWER 29 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 95:142258 CABA

DN 19951107959

TI Effects of diflubenzuron and penfluron on workers of **Apis** cerana indica F and **Apis** mellifera L

AU Gupta, P. R.; Chandel, R. S.

CS Department of Entomology, Dr YS Parmar University of Horticulture & Forestry, Nauni-173 230, Solan, India.

SO Apidologie, (1995) Vol. 26, No. 1, pp. 3-10. Bj. 24 ref.
ISSN: 0044-8435

DT Journal

LA English

SL German; French

ED Entered STN: 19950821

Last Updated on STN: 19950821

AB Newly emerged adult workers of **Apis** mellifera and A. cerana indica tolerated a topically applied dose of 10 [mu]g diflubenzuron (DF) and penfluron (PF) in acetone but the treated **bees** weighted less than control **bees** at 2 and 6 days of age. Oral administration of 100 [mu]g DF (as Dimilin 25% wettable powder) in 10 [mu]l sugar syrup proved fatal to A. c. indica. After 6 days of feeding 50 [mu]g DF, hypopharyngeal gland development, measured as size of acini, was significantly suppressed in both **bee** species. The suppressed gland development in the treated group could be a consequence of poor gain in weight. Foragers of both **bee** species readily accepted DF-contaminated sugar syrup and, with increasing doses, there was a decrease in the time required to consume the contaminated sugar syrup in a dose-dependent manner. The treated **bees** weighed significantly less than the control **bees**. Thus, at higher doses, chitin synthesis inhibitors may also prove harmful to adult **bees**.<new para>ADDITIONAL ABSTRACT:<new para>Newly emerged adult workers of A. mellifera and A. cerana tolerated a topically applied dose of 100 [micro]g diflubenzuron (DF) and penfluron (PF) in acetone but the treated **bees** weighed less than control **bees** at 2 and 6 d of age. Oral administration of 100 [micro]g DF (as Dimilin 25% wettable powder) in 10 [micro]l sugar syrup killed A. cerana. After 6 d of feeding 50 [micro]g DF, hypopharyngeal gland development, measured as size of acini, was significantly suppressed in both species. This could have been a consequence of poor gain in weight. Foragers of both species readily accepted DF-contaminated sugar syrup and, with increasing doses, the time required to consume the contaminated sugar syrup decreased in a dose-dependent manner. The treated **bees** weighed significantly less than the control **bees**. Thus, at higher doses chitin

synthesis inhibitors may prove harmful to adult **bees**.
 TI Effects of diflubenzuron and penfluron on workers of **Apis cerana**
 indica F and **Apis mellifera** L.
 AB Newly emerged adult workers of **Apis mellifera** and **A. cerana**
 indica tolerated a topically applied dose of 10 [mu]g diflubenzuron (DF)
 and penfluron (PF) in **acetone** but the treated **bees**
 weighed less than control **bees** at 2 and 6 days of age. Oral
 administration of 100 [mu]g DF (as Dimilin 25% wettable powder) in 10. .
 . 6 days of feeding 50 [mu]g DF, hypopharyngeal gland development,
 measured as size of acini, was significantly suppressed in both
bee species. The suppressed gland development in the treated group
 could be a consequence of poor gain in weight. Foragers of both
bee species readily accepted DF-contaminated sugar syrup and, with
 increasing doses, there was a decrease in the time required to consume the
 contaminated sugar syrup in a dose-dependent manner. The treated
bees weighed significantly less than the control **bees**.
 Thus, at higher doses, chitin synthesis inhibitors may also prove harmful
 to adult **bees**.<new para>ADDITIONAL ABSTRACT:<new para>Newly
 emerged adult workers of **A. mellifera** and **A. cerana** tolerated a topically
 applied dose of 100 [micro]g diflubenzuron (DF) and penfluron (PF) in
acetone but the treated **bees** weighed less than control
bees at 2 and 6 d of age. Oral administration of 100 [micro]g DF
 (as Dimilin 25% wettable powder) in 10. . . and, with increasing doses,
 the time required to consume the contaminated sugar syrup decreased in a
 dose-dependent manner. The treated **bees** weighed significantly
 less than the control **bees**. Thus, at higher doses chitin
 synthesis inhibitors may prove harmful to adult **bees**.
 BT insects; arthropods; invertebrates; animals; Hymenoptera; **Apis**;
 Apidae; **Apis cerana**
 CT toxicity; insecticides; insect growth regulators; chitin synthesis
 inhibitors; beneficial insects; pollinators; nontarget effects;
 diflubenzuron; penfluron; effects; growth regulators; **pesticides**
 ; pollination; agricultural entomology; honey **bees**; body weight;
 hypopharyngeal glands; poisoning
 ORGN Hymenoptera; Apidae; insects; **Apis mellifera**; **Apis**
 cerana indica; **Apis**; **Apis cerana**

L7 ANSWER 30 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1995-83061 CROPU I G
 TI Effect of insects and insecticides on onion seed and broccoli seed
 production in southwest Arizona.
 AU Rethwisch M D
 CS Univ.Arizona
 LO Parker, Ariz., USA
 SO Hortscience (29, No. 12, 1409, 1994)
 CODEN: HJHSAR
 AV University of Arizona, Cooperative Extension, 2524 Mutahar, P.O. Box BL,
 Parker, AZ 85344, U.S.A.
 DT Conference
 LA English
 FA AB; LA; CT
 AB Effects of insecticides on seed crops of onion and broccoli were studied
 in 1991 and 1992. Onions were treated with Agri-Mek
 (avermectin B1), Ammo (cypermethrin), Capture (bifenthrin) or Lorsban
 (chlorpyrifos) to control Frankliniella occidentalis and Thrips tabaci,
 while broccoli was treated with Thiodan (endosulfan), CGA-215944
 (pymetrozine) or 2 rates of RH-7988, to control Myzus persicae. In
 onion, all treatments except Agri-Mek decreased damage by T.
 tabaci, but only Ammo and Capture increased seed yield, and Lorsban and
 Agri-Mek reduced seed yield. In broccoli, all treatments
 reduced M. persicae, with RH-7988 most effective. All treatments reduced
 seed yields/plant, but increased % of large seed. (conference abstract).

AB. . . Effects of insecticides on seed crops of onion and broccoli were studied in 1991 and 1992. Onions were treated with Agri-Mek (avermectin B1), Ammo (cypermethrin), Capture (bifenthrin) or Lorsban (chlorpyrifos) to control Frankliniella occidentalis and Thrips tabaci, while broccoli was treated with Thiodan (endosulfan), CGA-215944 (pymetrozine) or 2 rates of RH-7988, to control Myzus persicae. In onion, all treatments except Agri-Mek decreased damage by T. tabaci, but only Ammo and Capture increased seed yield, and Lorsban and Agri-Mek reduced seed yield. In broccoli, all treatments reduced M. persicae, with RH-7988 most effective. All treatments reduced seed yields/plant, but. . .

ABEX. . . Ammo or Capture showed significant control, but only Ammo and capture increased seed yield, as Lorsban was thought to repel bees, reducing pollination. Ammo and Capture treatments yielded 40% more than untreated plants, which in turn yielded more than Lorsban and Agri-Mek treatments. Broccoli seed yield was higher with the lower rate of RH-7988 than with the higher rate; RH-988-treated plants yielded. . .

CT [01] AVERMECTIN-B1 *TR; AGRI-MEK *TR; ONION *TR; FRANKLINIELLA *TR; OCCIDENTALIS *TR; THRIPS *TR; TABACI *TR; VEGETABLE *TR; CROP *TR; THYSANOPTERA *TR; AVERMEB1 *RN; DECREASE *FT; ANTIBIOTICS *FT; INSECTICIDES *FT; ACARICIDES *FT; NEMATICIDES *FT; INSECT-CHEMOSTERILANTS *FT; TR *FT

[02] CYPERMETHRIN *TR; AMMO *TR; ONION *TR; FRANKLINIELLA *TR; OCCIDENTALIS *TR; THRIPS *TR;. . . FRANKLINIELLA *TR; OCCIDENTALIS *TR; THRIPS *TR; TABACI *TR; VEGETABLE *TR; CROP *TR; THYSANOPTERA *TR; BIPHENATE *RN; INCREASE *FT; INSECTICIDES *FT; ACARICIDES *FT; TR *FT

[04] CHLORPYRIFOS *TR; LORSBAN *TR; ONION *TR; FRANKLINIELLA *TR; OCCIDENTALIS *TR; THRIPS *TR; TABACI *TR; VEGETABLE *TR; CROP *TR; THYSANOPTERA *TR; CHLORPYRI *RN; DECREASE *FT; INSECTICIDES *FT; ACARICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; TR *FT

[05] ENDOSULFAN *TR; THIODAN *TR; BROCCOLI *TR; MYZUS *TR;. . .

[03]. . . FRANKLINIELLA *TR; OCCIDENTALIS *TR; THRIPS *TR; TABACI *TR; VEGETABLE *TR; CROP *TR; THYSANOPTERA *TR; BIPHENATE *RN; INCREASE *FT; INSECTICIDES *FT; ACARICIDES *FT; TR *FT

[04] CHLORPYRIFOS *TR; LORSBAN *TR; ONION *TR; FRANKLINIELLA *TR; OCCIDENTALIS *TR; THRIPS *TR; TABACI *TR; VEGETABLE *TR; CROP *TR; THYSANOPTERA *TR; CHLORPYRI *RN; DECREASE *FT; INSECTICIDES *FT; ACARICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; TR *FT

[05] ENDOSULFAN *TR; THIODAN *TR; BROCCOLI *TR; MYZUS *TR;. . .

[04]. . . FRANKLINIELLA *TR; OCCIDENTALIS *TR; THRIPS *TR; TABACI *TR; VEGETABLE *TR; CROP *TR; THYSANOPTERA *TR; CHLORPYRI *RN; DECREASE *FT; INSECTICIDES *FT; ACARICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; TR *FT

[05] ENDOSULFAN *TR; THIODAN *TR; BROCCOLI *TR; MYZUS *TR;. . .

L7 ANSWER 31 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 96:455 CABA

DN 19950201519

TI Methyl palmitate does not elicit invasion of honeybee brood cells by Varroa mites

AU Boot, W. J.

CS Department of Pure and Applied Ecology, Section Population Biology, University of Amsterdam, Kruislaan 320, 1098 SM Amsterdam, Netherlands.

SO Experimental & Applied Acarology, (1994) Vol. 18, No. 10, pp. 587-592. Bb. ISSN: 0168-8162

DT Journal

LA English

ED Entered STN: 19960126

Last Updated on STN: 19960126

- AB A special 'half-comb' with a transparent base was used in these trials so that worker brood cells could be inspected every 2 h for invasion by **mites**. Test cells were treated with 2[μl] of 10, 1 or 0.1% methyl palmitate in **acetone**, or with pure **acetone**. Numbers of **mites** invading treated cells were similar to those in untreated cells in all trials except one; in the 0-6 h preceding capping, cells treated with 0.1% methyl palmitate had more **mites** than control cells. Higher doses of methyl palmitate killed some or all larvae. It is concluded that this compound does not (as has been suggested) serve as an attractant to **mites**. Further, an unpublished analysis of volatiles from brood cells that attracted **mites** established that methyl palmitate was present as a trace in only 2 of 17 samples.
- TI Methyl palmitate does not elicit invasion of **honeybee** brood cells by **Varroa mites**.
- AB . . . base was used in these trials so that worker brood cells could be inspected every 2 h for invasion by **mites**. Test cells were treated with 2[μl] of 10, 1 or 0.1% methyl palmitate in **acetone**, or with pure **acetone**. Numbers of **mites** invading treated cells were similar to those in untreated cells in all trials except one; in the 0-6 h preceding capping, cells treated with 0.1% methyl palmitate had more **mites** than control cells. Higher doses of methyl palmitate killed some or all larvae. It is concluded that this compound does not (as has been suggested) serve as an attractant to **mites**. Further, an unpublished analysis of volatiles from brood cells that attracted **mites** established that methyl palmitate was present as a trace in only 2 of 17 samples.
- BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; **Varroa**; Varroidae; Mesostigmata; **mites**; **Acari**; Arachnida
- CT beneficial insects; ectoparasites; **pests**; honey **bees**; honey **bee** brood; invasion; larvae; esters
- ORGN **Apis mellifera**; **Varroa jacobsoni**

L7 ANSWER 32 OF 85 CABA COPYRIGHT 2004 CABI on STN DUPLICATE 7

AN 96:483 CABA

DN 19950201547

TI Laboratory toxicology of six forestry insecticides to four species of **bee** (Hymenoptera: Apoidea)

AU Helson, B. V.; Barber, K. N.; Kingsbury, P. D.

CS Forest Pest Management Institute, 1219 Queen Street East, PO Box 490, Sault Ste. Marie, Ontario, P6A 5M7, Canada.

SO Archives of Environmental Contamination and Toxicology, (1994) Vol. 27, No. 1, pp. 107-114. Bc. 50 ref. ISSN: 0090-4341

DT Journal

LA English

ED Entered STN: 19960126

Last Updated on STN: 19960126

- AB Laboratory dose-response studies were conducted with 4 species of adult **bees**, **Apis mellifera** (workers), *Andrena erythronii* (females), *Megachile rotundata* (females) and *Bombus terrestris* (workers), using 6 insecticides (permethrin, methoxychlor, diazinon, fenitrothion, carbaryl, and trichlorfon). All insecticides were applied topically to the thorax of the **bees** as technical grade in an **acetone** carrier. Mortality was accumulated over 48 h, and probit analyses were conducted separately on data sets expressed in units of [μgAI] (active ingredient)/g body weight and of [μgAI]/**bee**. LD50 values with 95% confidence limits and slopes with standard errors are provided for each **bee**/insecticide combination in each data set. Relative toxicities, relative susceptibilities, and fresh body weights are also provided. The analysis in units of [μgAI]/g body weight indicated that

the insecticides could be ranked in order of decreasing toxicity - permethrin, mexacarbate, aminocarb, fenitrothion, carbaryl and trichlorfon. Likewise, the **bees** ranked from the most to least susceptible in the order *A. mellifera*, *A. erythronii*, *M. rotundata* and *B. terrecola*. Trends within the data set for units of $[\mu\text{gAI}/\text{bee}]$ were less consistent. The data are discussed and compared with other published data on the toxicology of insecticides to **bees**.<new para>ADDITIONAL ABSTRACT:<new para>Laboratory dose-response studies were conducted with 4 species of adult **bees**, *Apis mellifera* (workers), *Andrena erythronii* (females), *Megachile rotundata* (females) and *Bombus terrecola* (workers) using the insecticides permethrin, mexacarbate, aminocarb, fenitrothion, carbaryl and trichlorfon. All insecticides were applied topically to the thorax of **bees** as technical grade in **acetone**. Cumulative mortality was assessed over 48 h and probit analyses were conducted separately on data sets expressed in units of $[\mu\text{g}/\text{a.i. per g body weight}]$ and $[\mu\text{g a.i.}/\text{bee}]$. Relative toxicities, relative susceptibilities and fresh body weights were also calculated. The analysis in units of $[\mu\text{g a.i.}/\text{g body weight}]$ indicated that the insecticides were typically ranked in the order of decreasing toxicity permethrin < mexacarbate < aminocarb < fenitrothion < carbaryl < trichlorfon. **Bees** ranked from the most to the least susceptible in the order *Apis mellifera* > *Andrena erythronii* > *M. rotundata* > *B. terrecola*. Trends within the data sets for units of $[\mu\text{g a.i.}/\text{bee}]$ were less consistent. The data are discussed and compared with other published data on the toxicology of insecticides to **bees** and from the perspective of risk assessment.

TI Laboratory toxicology of six forestry insecticides to four species of **bee** (Hymenoptera: Apoidea).

AB Laboratory dose-response studies were conducted with 4 species of adult **bees**, *Apis mellifera* (workers), *Andrena erythronii* (females), *Megachile rotundata* (females) and *Bombus terrecola* (workers), using 6 insecticides (permethrin, mexacarbate, aminocarb, fenitrothion, carbaryl, and trichlorfon). All insecticides were applied topically to the thorax of the **bees** as technical grade in an **acetone** carrier. Mortality was accumulated over 48 h, and probit analyses were conducted separately on data sets expressed in units of $[\mu\text{gAI (active ingredient)}/\text{g body weight}]$ and of $[\mu\text{gAI}/\text{bee}]$. LD50 values with 95% confidence limits and slopes with standard errors are provided for each **bee**/insecticide combination in each data set. Relative toxicities, relative susceptibilities, and fresh body weights are also provided. The analysis in units. . . the insecticides could be ranked in order of decreasing toxicity - permethrin, mexacarbate, aminocarb, fenitrothion, carbaryl and trichlorfon. Likewise, the **bees** ranked from the most to least susceptible in the order *A. mellifera*, *A. erythronii*, *M. rotundata* and *B. terrecola*. Trends within the data set for units of $[\mu\text{gAI}/\text{bee}]$ were less consistent. The data are discussed and compared with other published data on the toxicology of insecticides to **bees**.<new para>ADDITIONAL ABSTRACT:<new para>Laboratory dose-response studies were conducted with 4 species of adult **bees**, *Apis mellifera* (workers), *Andrena erythronii* (females), *Megachile rotundata* (females) and *Bombus terrecola* (workers) using the insecticides permethrin, mexacarbate, aminocarb, fenitrothion, carbaryl and trichlorfon. All insecticides were applied topically to the thorax of **bees** as technical grade in **acetone**. Cumulative mortality was assessed over 48 h and probit analyses were conducted separately on data sets expressed in units of $[\mu\text{g}/\text{a.i. per g body weight}]$ and $[\mu\text{g a.i.}/\text{bee}]$. Relative toxicities, relative susceptibilities and fresh body weights were also calculated. The analysis in units of $[\mu\text{g a.i.}/\text{g body weight}]$. . . were typically ranked in the order of decreasing toxicity permethrin < mexacarbate < aminocarb < fenitrothion < carbaryl < trichlorfon. **Bees** ranked from the most to the least susceptible in the order

Apis mellifera > *Andrena erythronii* > *M. rotundata* > *B. terrestris*.
Trends within the data sets for units of [micro]g a.i./bee were less consistent. The data are discussed and compared with other published data on the toxicology of insecticides to **bees** and from the perspective of risk assessment.

BT Hymenoptera; insects; arthropods; invertebrates; animals; Apidae; Megachile; Megachilidae; Andrenidae; **Apis**; Bombus

CT beneficial insects; nontarget effects; insecticides; forestry; toxicity; honey **bees**; permethrin; methoxy carbamate; aminocarb; fenitrothion; trichlorfon; carbaryl; pollinators; social insects; **pesticides**; pollination; agricultural entomology

ORGN Apidae; Bombus; Megachile rotundata; Andrena; insects; Hymenoptera; **Apis mellifera**

L7 ANSWER 33 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1993-243237 [30] WPIDS

CR 1993-133729 [16]

DNC C1993-108459

TI Determining **pesticides** - by incubating sample with insect brain material, adding D-luciferin deriv. with ATP and luciferase, and measuring the luminescence liberated.

DC C07 D16 J04

IN CHARM, S E; SAUL, S; ZOMER, E

PA (CHAR-N) CHARM SCI INC

CYC 21

PI WO 9314222 A1 19930722 (199330)* EN 27p
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA JP

AU 9335846 A 19930803 (199348)

EP 576667 A1 19940105 (199402) EN
R: BE CH DE FR GB IE IT LI NL SE

US 5283180 A 19940201 (199406) 7p

JP 06505880 W 19940707 (199431) 8p

US 5374534 A 19941220 (199505) 7p

US 5374535 A 19941220 (199505) 6p

AU 667518 B 19960328 (199622)

CA 2105770 C 19980922 (199848)

EP 576667 B1 20010404 (200120) EN
R: BE CH DE FR GB IE IT LI NL SE

DE 69330077 E 20010510 (200134)

ADT WO 9314222 A1 WO 1993-US436 19930107; AU 9335846 A AU 1993-35846 19930107, WO 1993-US436 19930107; EP 576667 A1 EP 1993-904519 19930107, WO 1993-US436 19930107; US 5283180 A CIP of US 1990-556952 19900719, US 1992-818782 19920109; JP 06505880 W JP 1993-512696 19930107, WO 1993-US436 19930107; US 5374534 A CIP of US 1990-556952 19900719, Div ex US 1992-818782 19920109, Div ex US 1993-7572 19930122, US 1993-62315 19930514; US 5374535 A CIP of US 1990-556952 19900719, Div ex US 1992-818782 19920109, US 1993-125935 19930923; AU 667518 B AU 1993-35846 19930107; CA 2105770 C CA 1993-2105770 19930107; EP 576667 B1 EP 1993-904519 19930107, WO 1993-US436 19930107; DE 69330077 E DE 1993-630077 19930107, EP 1993-904519 19930107, WO 1993-US436 19930107

FDT AU 9335846 A Based on WO 9314222; EP 576667 A1 Based on WO 9314222; US 5283180 A CIP of US 5200311; JP 06505880 W Based on WO 9314222; US 5374534 A CIP of US 5200311, Div ex US 5283180; US 5374535 A CIP of US 5200311, Div ex US 5283180; AU 667518 B Previous Publ. AU 9335846, Based on WO 9314222; EP 576667 B1 Based on WO 9314222; DE 69330077 E Based on EP 576667, Based on WO 9314222

PRAI US 1992-818782 19920109

AB WO 9314222 A UPAB: 20010620
Determin. of the concn. of organophosphate and carbanate **pesticides** in a test sample comprises: (a) incubating a test sample and an insect brain material; (b) adding a D-luciferin deriv. being inhibited towards

hydrolysis in the presence of the **pesticide**; (c) incubating the D-luciferin deriv. mixt. to liberate D-luciferin; (d) adding a reaction mixt. of adenosine triphosphate ATS and luciferase to a portion of the D-luciferin mixt. to give oxyluciferin and emitted luminescence; (e) measuring the emitted luminescence during a defined time period; and (f) determining the concn. of the **pesticide** in the test sample by comparing the emitted measured luminescence with the luminescence of a control sample or standard.

Luciferin derivs. of formula (I) are also claimed where R = a monovalent organic radical chosen from 1-6C alkyl and benzyl. A test kit comprising the substances and devices necessary for carrying out steps (a)-(f) is also claimed.

USE/ADVANTAGE - The method is a rapid and sensitive method for the multiple detection of organophosphate and carbonate **pesticides** using the brains of organisms sensitive to these **pesticides**. The insect brain preps. have a mixt. of receptors or enzymes with sites capable of interacting with the organophosphate and carbonate **pesticides**. The hydrolysis of the luciferin deriv. to luciferin by the brain preparation is extremely sensitive to organophosphates and carbamates, being inhibited in their presence. The luciferin liberated is oxidised by the luciferase and ATP and emits light which can be measured as bio- or chemi-luminescence, and compared with a standard. The method is capable of determining **pesticide** concns. of 50 ppb or lower.

One cpd. (I) namely lucifin acetate is specifically claimed.

Dwg.0/0

Dwg.0/0

Dwg.0/0

TI Determining **pesticides** - by incubating sample with insect brain material, adding D-luciferin deriv. with ATP and luciferase, and measuring the luminescence liberated.

AB WO 9314222 UPAB: 20010620

Determin. of the concn. of organophosphate and carbonate **pesticides** in a test sample comprises: (a) incubating a test sample and an insect brain material; (b) adding a D-luciferin deriv. being inhibited towards hydrolysis in the presence of the **pesticide**; (c) incubating the D-luciferin deriv. mixt. to liberate D-luciferin; (d) adding a reaction mixt. of adenosine triphosphate ATS and luciferase. . . and emitted luminescence; (e) measuring the emitted luminescence during a defined time period; and (f) determining the concn. of the **pesticide** in the test sample by comparing the emitted measured luminescence with the luminescence of a control sample or standard.

Luciferin. . . also claimed.

USE/ADVANTAGE - The method is a rapid and sensitive method for the multiple detection of organophosphate and carbonate **pesticides** using the brains of organisms sensitive to these **pesticides**. The insect brain preps. have a mixt. of receptors or enzymes with sites capable of interacting with the organophosphate and carbonate **pesticides**. The hydrolysis of the luciferin deriv. to luciferin by the brain preparation is extremely sensitive to organophosphates and carbamates, being. . . light which can be measured as bio- or chemi-luminescence, and compared with a standard. The method is capable of determining **pesticide** concns. of 50 ppb or lower.

One cpd. (I) namely lucifin acetate is specifically claimed.

Dwg.0/0

Dwg.0/0

Dwg.0/0

ABEQ US 5283180 UPAB: 19940322

Determin. of organophosphate and/or carbamate **pesticide** comprises incubating a water, soil or food test sample with insect brain extracts for 2-10 mins.; further incubation after addn.. . . emitted luminescence, comparing with results obtd. using standard solns. of organophosphate or carbamate.

Pref., insect brain material comprises homogenated honey **bee** heads.

USE/ADVANTAGE - The process facilitates the determin. of environmental **pesticides** to meet health and safety requirements. The process is rapid and very sensitive (to 50 ppb or less).

Dwg.0/0

ABEQ.

an alkyl, benzyl or phenyl substd. cpd. or is N-acetyl imidazole. Reaction is in a water-solvent mixt., water or an **acetone** water solvent.

Pref. the method also includes monitoring the decrease in bioluminescence of the luciferin as a measure of completeness of the reaction.

Esp., the luciferin is synthetic.

USE - (I) Are used in determination of **pesticides** by bioluminescence. They are pref. used to determine organophosphate and carbamate type **pesticides** at levels below 50 ppb.

Dwg.0/0

ABEQ US 5374535 UPAB: 19950207

A test kit for bioluminescent determin. of the concn. of organophosphate and carbamate **pesticides** in a sample comprises (a) an insect brain material (from honey **bees**, silkworms, blow flies or mixts. of these) which hydrolyses a 6-substd. D luciferin ester (I) (pref. a 6-substd. acetyl D luciferin ester) to D luciferin (II). (This hydrolysis is inhibited by **pesticides**).

(b) The cpd. (I). (c) Luciferase and adenosine triphosphate which react with cpd. (II) to yield oxyluciferin and bioluminescence, (d). . . means to measure bioluminescence, and (f) a control sample for comparison of the measured bioluminescence.

USE - For detection of **pesticide** residues in water, soil, food, etc.

Dwg.0/0

TT TT: DETERMINE **PEST** INCUBATE SAMPLE INSECT BRAIN MATERIAL ADD LUCIFERIN DERIVATIVE ATP LUCIFERASE MEASURE LUMINESCENT LIBERATING.

L7 ANSWER 34 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1993-85470 CROPU I G

TI Pear, Summer Control of Pear Psylla and Pear Rust **Mite**, 1992.

AU Johnson J W; Wise J C

LO Fennville, Mich., USA

SO Insectic.Acaric.Tests (18, 62-63, 1993) 4 Tab.

AV Department of Entomology, Michigan State University, East Lansing, MI 48824-1115, U.S.A.

DT Journal

LA English

FA AB; LA; CT

AB Bartlett pear trees were sprayed with the following treatments (rate/A) for control of Cacopsylla (Psylla) pyricola (Cp) and Epitrimerus pyri (Ep): Kelthane 35W (dicofol, 1.5 lb) applied on 6 May (white bud) and 14 May (petal fall) followed by Mitac 1.5EC (amitraz; 1 gal) on 8 June (2nd cover) and 2 July (4th cover); Agri-Mek 0.15EC (avermectin-bl, 20 oz) + Sun Ultra Fine Spray Oil (mineral oil, 1 gal) and Agri-Mek 0.15EC (10 oz) + M-Pede (insecticidal soap, 2% v/v) on 27 May (1st cover); and Danitol 2.4EC (fenpropathrin, 0.4 lb) and Kelthane 35WP (2.1 lb) on 6 May (white bud), 27 May (1st cover) and 22 June (3rd cover). Kelthane followed by Mitac provided the highest % of fruit free from Ep russetting and the highest control of Cp. Danitol plots had the highest incidence of sooty mold injury.

TI Pear, Summer Control of Pear Psylla and Pear Rust **Mite**, 1992.

AB. . . May (petal fall) followed by Mitac 1.5EC (amitraz; 1 gal) on 8 June (2nd cover) and 2 July (4th cover); Agri-Mek 0.15EC (avermectin-bl, 20 oz) + Sun Ultra Fine Spray Oil (mineral oil, 1 gal) and Agri-Mek 0.15EC (10 oz) + M-Pede (insecticidal soap, 2% v/v) on 27 May (1st cover); and Danitol 2.4EC (fenpropathrin, 0.4 lb). .

ABEX All treatments were applied with an FMC 1029 airblast sprayer delivering 10092 L/A of finished spray. Streptomycin, ferbam, **Bee**-scent and dodine were applied to all treatments separately. Cp and Ep counts were conducted on 20 May, 2, 9, 16. . .

CT. . . PSYLLA *TR; PYRICOLA *TR; EPITRIMERUS *TR; PYRI *TR; POMACEOUS-FRUIT *TR; FRUIT-CROP *TR; CROP *TR; PSYLLIDAE *TR; HOMOPTERA *TR; ERIOPHYIDAE *TR; **ACARINA** *TR; STREPTOMYCIN *RC; DODINE *RC; FERBAM *RC; **BEE**-SCENT *RC; FIELD *FT; ORCHARD *FT; MICH. *FT; SPRAY *FT; APPL.TIME *FT; POPULATION-DENSITY *FT; DECREASE *FT; PERSISTENCE *FT; DOSAGE *FT; INSECTICIDE *FT; **ACARICIDE** *FT; NYMPH *FT; EGG *FT; ADULT *FT; NO. *FT; FRUIT *FT; YIELD *FT; QUALITY *FT; DAMAGE *FT; USA *FT; AREA-AMERICA. . .

[01] AMITRAZ *TR; MITAC *TR; AMITRAZ *RN; EMULSION *FT; COVER *FT; SEQUENTIAL *FT; REPEAT *FT; FORMULATION *FT; APPL.SCHEDULE *FT; **ACARICIDES** *FT; INSECTICIDES *FT; TICK-REPELLENTS *FT; TR *FT

[02] DICOFOL *TR; KELTHANE *TR; DICOFOL *RN; WETTABLE-POWDER *FT; FULL-PINK *FT; PETAL-FALL *FT; REPEAT *FT; SEQUENTIAL *FT; WETTABLE *FT; FORMULATION *FT; APPL.SCHEDULE *FT; **ACARICIDES** *FT; TR *FT

[03] AVERMECTIN-B1 *TR; AGRI-**MEK** *TR; AVERMEB1 *RN; EMULSION *FT; COVER *FT; COMB. *FT; FORMULATION *FT; ANTIBIOTICS *FT; INSECTICIDES *FT; **ACARICIDES** *FT; NEMATICIDES *FT; INSECT-CHEMOSTERILANTS *FT; TR *FT

[04] MINERAL-OIL *TR; SUNSPRAY-ULTRA-FINE-SPRAY-OIL *TR; MINERLOIL *RN; COMB. *FT; COVER *FT; INSECTICIDES *FT; **ACARICIDES** *FT; FUNGICIDES *FT; HERBICIDES *FT; ADDITIVES *FT; TR *FT

[05] INSECTICIDAL-SOAP *TR; M-PEDE *TR; INSEC SOAP *RN; COMB. *FT; COVER *FT; . . . FENPROPATHRIN *TR; DANITOL *TR; FENPROPAT *RN; EMULSION *FT; COVER *FT; FULL-PINK *FT; REPEAT *FT; FORMULATION *FT; APPL.SCHEDULE *FT; INSECTICIDES *FT; **ACARICIDES** *FT; TR *FT

[02]. . . KELTHANE *TR; DICOFOL *RN; WETTABLE-POWDER *FT; FULL-PINK *FT; PETAL-FALL *FT; REPEAT *FT; SEQUENTIAL *FT; WETTABLE *FT; FORMULATION *FT; APPL.SCHEDULE *FT; **ACARICIDES** *FT; TR *FT

[03] AVERMECTIN-B1 *TR; AGRI-**MEK** *TR; AVERMEB1 *RN; EMULSION *FT; COVER *FT; COMB. *FT; FORMULATION *FT; ANTIBIOTICS *FT; INSECTICIDES *FT; **ACARICIDES** *FT; NEMATICIDES *FT; INSECT-CHEMOSTERILANTS *FT; TR *FT

[04] MINERAL-OIL *TR; SUNSPRAY-ULTRA-FINE-SPRAY-OIL *TR; MINERLOIL *RN; COMB. *FT; COVER *FT; INSECTICIDES *FT; **ACARICIDES** *FT; FUNGICIDES *FT; HERBICIDES *FT; ADDITIVES *FT; TR *FT

[05] INSECTICIDAL-SOAP *TR; M-PEDE *TR; INSEC SOAP *RN; COMB. *FT; COVER *FT; . . . FENPROPATHRIN *TR; DANITOL *TR; FENPROPAT *RN; EMULSION *FT; COVER *FT; FULL-PINK *FT; REPEAT *FT; FORMULATION *FT; APPL.SCHEDULE *FT; INSECTICIDES *FT; **ACARICIDES** *FT; TR *FT

[03] AVERMECTIN-B1 *TR; AGRI-**MEK** *TR; AVERMEB1 *RN; EMULSION *FT; COVER *FT; COMB. *FT; FORMULATION *FT; ANTIBIOTICS *FT; INSECTICIDES *FT; **ACARICIDES** *FT; NEMATICIDES *FT; INSECT-CHEMOSTERILANTS *FT; TR *FT

[04] MINERAL-OIL *TR; SUNSPRAY-ULTRA-FINE-SPRAY-OIL *TR; MINERLOIL *RN; COMB. *FT; COVER *FT; INSECTICIDES *FT; **ACARICIDES** *FT; FUNGICIDES *FT; HERBICIDES *FT; ADDITIVES *FT; TR *FT

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[04] MINERAL-OIL *TR; SUNSPRAY-ULTRA-FINE-SPRAY-OIL *TR; MINERLOIL *RN; COMB. *FT; COVER *FT; INSECTICIDES *FT; **ACARICIDES** *FT; FUNGICIDES *FT; HERBICIDES *FT; ADDITIVES *FT; TR *FT

[05] INSECTICIDAL-SOAP *TR; M-PEDE *TR; INSEC SOAP *RN; COMB. *FT; COVER *FT; . . . FENPROPATHRIN *TR; DANITOL *TR; FENPROPAT *RN; EMULSION *FT; COVER *FT; FULL-PINK *FT; REPEAT *FT; FORMULATION *FT; APPL.SCHEDULE *FT; INSECTICIDES *FT; **ACARICIDES** *FT; TR *FT

[06]. . . FENPROPATHRIN *TR; DANITOL *TR; FENPROPAT *RN; EMULSION *FT;
COVER *FT; FULL-PINK *FT; REPEAT *FT; FORMULATION *FT; APPL.SCHEDULE
*FT; INSECTICIDES *FT; **ACARICIDES** *FT; TR *FT

L7 ANSWER 35 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 93:111745 CABA

DN 19930234011

TI Toxicity of diflubenzuron and penfluron to immature stages of **Apis**
cerana indica F. and **Apis** mellifera L

AU Chandel, R. S.; Gupta, P. R.

CS Department of Entomology and Apiculture, University of Horticulture and
Forestry, Nauni 173 230, Solan, India.

SO Apidologie, (1992) Vol. 23, No. 5, pp. 465-473. Bj. 22 ref.
ISSN: 0044-8435

DT Journal

LA English

SL French; German

ED Entered STN: 19941101

Last Updated on STN: 19941101

AB The chitin synthesis inhibitors diflubenzuron and penfluron in
acetone were found to be equally toxic to *A. mellifera* and *A.*
cerana in topical application tests based on equivalent body weights.
Toxicity resulting from median lethal dosage was highest for pupae and was
lower for third- and fourth-instar larvae. **Acetone** was lethal to
eggs and first- and second-instar larvae. There was no delayed lethal or
morphological effect on larvae, but some adult **bees**, treated in
the same manner as pupae, showed morphological abnormalities such as
crumpled wings and poor interlocking at stylet and lancets of the sting
apparatus. Feeding of 50 mg diflubenzuron to small colonies of both
bee species enhanced egg laying but significantly reduced the
amount of unsealed and sealed brood within 10 days of treatment.<new
para>ADDITIONAL ABSTRACT:<new para>Diflubenzuron and penfluron were
equally toxic to **Apis** mellifera and *A. cerana indica*. Toxicity
was highest for pupae and lower for 4th- and 3rd-instar larvae.
Acetone was lethal to eggs and 1st- and 2nd-instar larvae. Some
adult **bees** showed morphological abnormalities. Feeding of 50 mg
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diflubenzuron to small experimental colonies of both **bee** species
enhanced egg laying but significantly reduced the amount of unsealed and
sealed brood within 10 days of treatment.

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates;

animals; **Apis** cerana

CT Poisoning; honey **bees**; diflubenzuron; penfluron; Toxicity; chitin synthesis inhibitors; effects; larvae; pupae; Insect growth regulators; Beneficial insects; Pollinators; Nontarget effects; Insecticides; growth regulators; **pesticides**; pollination; agricultural entomology

ORGN **Apis** cerana; Apidae; Hymenoptera; **Apis** mellifera; **Apis** cerana indica; **Apis**

L7 ANSWER 36 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1992-86568 CROPU I G L

TI Thrips Control in Seed Onions, 1991.

AU Rethwisch M D; Sanderson D; McDaniel C; Daily W

LO Yuma, Ariz., USA

SO Insectic.Acaric.Tests (17, 119, 1992) 1 Tab.

AV University of Arizona, Department of Entomology, Yuma Valley Agricultural Center, 6425 W. 8th Street, Yuma, AZ 85364, U.S.A.

DT Journal

LA English

FA AB; LA; CT

AB Red Creole seed onions were treated on 23 April with Agri-Mek 0.15EC (avermectin B1) + vegetable oil concentrate (0.01 lb + 6 oz/A), Ammo 2.5EC (cypermethrin, 0.1 lb/A), Capture 2EC (biphenate, 0.1 lb/A) and Lorsban 4E (chlorpyrifos, 1.0 lb/A) for control of western flower thrips (WFT, Frankliniella occidentalis) and onion thrips (OT, Thrips tabaci). **Bees** already were present in hives around the field, and flowers on umbels were beginning to open when treatments were applied. Browning of heads (thought to be due to poor OT control) occurred in check and Agri-Mek plots. Plants treated with Ammo and Capture were taller than plants in the other plots and had fuller seed heads. Plots treated with Ammo or Capture resulted in an increase of over 400 lbs of seed, valued at 1,400 U.S. dollars/A, compared to untreated check.

AB Red Creole seed onions were treated on 23 April with Agri-Mek 0.15EC (avermectin B1) + vegetable oil concentrate (0.01 lb + 6 oz/A), Ammo 2.5EC (cypermethrin, 0.1 lb/A), Capture 2EC (biphenate, . . . Lorsban 4E (chlorpyrifos, 1.0 lb/A) for control of western flower thrips (WFT, Frankliniella occidentalis) and onion thrips (OT, Thrips tabaci). **Bees** already were present in hives around the field, and flowers on umbels were beginning to open when treatments were applied. Browning of heads (thought to be due to poor OT control) occurred in check and Agri-Mek plots. Plants treated with Ammo and Capture were taller than plants in the other plots and had fuller seed heads. . . .

ABEX. . . of 2 thrips species. Lower yields were attributed to lack of OT control and some control of WFT, and possible **honeybee** repellency by the Lorsban treatment. Germination values were equal for all treatments.

CT [01] AVERMECTIN-B1 *TR; AGRI-MEK *TR; VEGETABLE-OIL-CONCENTRATE *TR; COMB.ADDITIVE *FT; ANTIBIOTICS *FT; INSECTICIDES *FT; ACARICIDES *FT; NEMATOCIDES *FT; INSECT-CHEMOSTERILANTS *FT; AVERMEB1 *RN; TR *FT

[02] CYPERMETHRIN *TR; AMMO *TR; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; CYPERMETH *RN; TR *FT

[03] BIPHENATE *TR; CAPTURE *TR; INSECTICIDES *FT; ACARICIDES *FT; BIPHENATE *RN; TR *FT

[04] CHLORPYRIFOS *TR; LORSBAN *TR; INSECTICIDES *FT; ACARICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; CHLORPYRI *RN; TR *FT

[03] BIPHENATE *TR; CAPTURE *TR; INSECTICIDES *FT; ACARICIDES *FT; BIPHENATE *RN; TR *FT

[04] CHLORPYRIFOS *TR; LORSBAN *TR; INSECTICIDES *FT; ACARICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;

ORGANOPHOSPHORUS *FT; CHLORPYRI *RN; TR *FT
 [04] CHLORPYRIFOS *TR; LORSBAN *TR; INSECTICIDES *FT; **ACARICIDES**
 *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; CHLORPYRI *RN; TR *FT

L7 ANSWER 37 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1992:53706 CAPLUS

DN 116:53706

TI Hhoneybee repellents, for repulsion from **pesticide**-treated areas.

IN Holtmann, Heinrich

PA Germany

SO Ger. Offen., 5 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4012224	A1	19911017	DE 1990-4012224	19900414
PRAI	DE 1990-4012224		19900414		

AB A **honeybee** repellent contains .gtoreq.1 substance, selected from alcs., phenol derivs., aldehydes, ethers, terpenes, etc. Some combinations of the substances are synergistic. Thus, a combination of benzyl acetate, n-BuOH, and verbenone (3.3 .times. 10-8 mL/ha of each compd.) showed 113% repellent activity to **Apis mellifera**, compared to 100% activity for individual components, applied at 1 .times. 10-5 mL/ha. The repellents are selective to **honeybee** without any side effect to **bees** and plants, and are environmentally safe. They may be used to repel **honeybees** from **pesticide**-treated areas.

TI Hhoneybee repellents, for repulsion from **pesticide**-treated areas.

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ST **honeybee** repellent

IT Insect repellents

(of **honeybee**, for repulsion from **pesticide**-treated areas)

IT **Honeybee**

(repellents of, for repulsion from **pesticide**-treated areas)

IT 50-00-0, Formaldehyde, biological studies 50-21-5, 2-Hydroxypropionic acid, biological studies 56-41-7, .alpha.-Alanine, biological studies 57-10-3, Palmitic acid, biological studies 57-11-4, Stearic acid, biological studies 57-55-6, 1,2-Propanediol, biological studies 60-29-7, Diethyl ether, biological studies 60-33-3, Linolic acid, biological studies 64-17-5, Ethanol, biological studies 64-18-6, Formic acid, biological studies 64-19-7, Acetic acid, biological studies 65-85-0, Benzoic acid, biological studies 67-56-1, Methanol, biological studies 67-63-0, 2-Propanol, biological studies **67-64-1, Acetone**, biological studies 67-66-3, Chloroform, biological studies 67-68-5, Dimethyl sulfoxide, biological studies 68-12-2, Dimethyl formamide, biological studies 71-23-8, 1-Propanol, biological studies 71-36-3, 1-Butanol, biological studies 71-41-0, 1-Pentanol,

biological studies 71-43-2, Benzene, biological studies 75-00-3, Ethyl
 chloride 75-07-0, Acetaldehyde, biological studies 75-09-2, Methylene
 chloride, biological studies 75-65-0, tert-Butanol, biological studies
 75-84-3, Neopentyl alcohol 77-92-9, biological studies 78-70-6,
 Linalool 78-83-1, Iso-butanol, biological studies 78-92-2, 2-Butanol
78-93-3, 2-Butanone, biological studies 79-01-6, Trichloroethylene, biological studies 79-09-4, Propanoic acid,
 biological studies 79-20-9, Methyl acetate 79-31-2, Isobutyric acid
 80-48-8 80-56-8 80-57-9, Verbenone 84-66-2, Diethyl phthalate
 90-01-7, Salicyl alcohol 90-02-8, Salicylaldehyde, biological studies
 93-58-3, Methyl benzoate 95-48-7, o-Cresol, biological studies
 96-22-0, Diethyl ketone 100-42-5, Styrene, biological studies
 100-52-7, Benzaldehyde, biological studies 100-66-3, Anisole, biological
 studies 105-13-5, Anise alcohol 105-37-3, Ethyl propionate 105-54-4,
 Ethyl butyrate 105-68-0, Isopentyl propionate 106-23-0, Citronellal
 106-24-1, Geraniol 106-27-4, Isopentyl butyrate 106-44-5, p-Cresol,
 biological studies 106-68-3, n-Amyl ethyl ketone 107-21-1,
 1,2-Ethanediol, biological studies 107-92-6, Butanoic acid, biological
 studies 107-95-9, .beta.-Alanine 108-10-1, Methyl isobutyl ketone
 108-39-4, m-Cresol, biological studies 108-46-3, Resorcinol, biological
 studies 108-67-8, 1,3,5-Trimethylbenzene, biological studies 108-88-3,
 Toluene, biological studies 108-91-8, Cyclohexyl amine, biological
 studies 108-94-1, Cyclohexanone, biological studies 108-95-2, Phenol,
 biological studies 109-21-7, Butyl butyrate 109-52-4, Valeric acid,
 biological studies 109-66-0, n-Pentane, biological studies 109-73-9,
 Butyl amine, biological studies 110-15-6, Succinic acid, biological
 studies 110-16-7, Maleic acid, biological studies 110-17-8, Fumaric
 acid, biological studies 110-39-4, Octyl butyrate **110-43-0**,
Methyl pentyl ketone 110-54-3, n-Hexane,
 biological studies **111-13-7, Methyl hexyl**
ketone 111-26-2, n-Hexyl amine 111-27-3, 1-Hexanol, biological
 studies 111-47-7, Dipropyl sulfide 111-70-6, 1-Heptanol 111-87-5,
 1-Octanol, biological studies 112-06-1, Heptyl acetate 112-14-1, Octyl
 acetate 112-17-4, Decyl acetate 112-27-6 112-30-1, 1-Decanol
 112-40-3, Dodecane 112-53-8, 1-Dodecanol 112-62-9, Methyl oleate
 112-63-0, Methyl linoleate 112-80-1, Oleic acid, biological studies
 112-86-7 112-92-5, 1-Octadecanol 115-10-6, Dimethyl ether 119-61-9,
 Benzophenone, biological studies 120-80-9, Catechol, biological studies
123-19-3, 4-Heptanone 123-31-9,
 Hydroquinone, biological studies 123-38-6, Propionaldehyde, biological
 studies 123-51-3, Isoamyl alcohol 123-72-8, Butyraldehyde 123-86-4,
 Butyl acetate 123-91-1, Dioxane, biological studies 123-92-2,
 Isopentyl acetate 123-96-6, 2-Octanol 127-91-3 138-86-3, Dipentene
 141-78-6, Ethyl acetate, biological studies 141-82-2, Malonic acid,
 biological studies 142-60-9, Octyl propionate 142-61-0, Hexanoic acid
 chloride 142-62-1, Capronic acid, biological studies 142-82-5,
 n-Heptane, biological studies 142-92-7, Hexyl acetate 143-07-7, Lauric
 acid, biological studies 143-08-8, 1-Nonanol 143-13-5, Nonyl acetate
 143-28-2, cis-9-Octadecen-1-ol 144-62-7, Oxalic acid, biological studies
 301-00-8, Methyl linolenate 334-20-3 334-48-5, Capric acid 463-40-1,
 Linolenic acid 470-82-6, Cineol 473-67-6, Verbenol 480-63-7,
 2,4,6-Trimethylbenzoic acid 487-68-3, 2,4,6-Trimethylbenzaldehyde
 505-57-7, 2-Hexenal 507-70-0, Borneol 538-32-9, N-Benzyl urea
 540-18-1, Pentyl butyrate 543-49-7, 2-Heptanol 544-63-8, Myristic
 acid, biological studies 554-12-1, Methyl propionate 562-74-3,
 Terpinen-4-ol 584-02-1, 3-Pentanol 589-82-2, 3-Heptanol 590-01-2,
 Butyl propionate **591-78-6, Butyl methyl**
ketone 593-08-8, 2-Tridecanone 623-37-0, 3-Hexanol 623-42-7,
 Methyl butyrate 624-54-4, Pentyl propionate 626-93-7, 2-Hexanol
 628-02-4, Hexanamide 628-63-7, Pentyl acetate 628-99-9, 2-Nonanol
 629-50-5, Tridecane 629-62-9, Pentadecane 629-96-9, n-Eicosanol
 822-24-2, Eicosanyl acetate 872-50-4, N-Methyl pyrrolidone, biological

studies 928-94-9 928-95-0, trans-2-Hexenol 1007-32-5, Ethyl benzyl ketone 1120-06-5, 2-Decanol 1120-21-4, Undecane 1282-85-5, Isodecyl amine 1300-71-6, Xylenol 1330-20-7, Xylene, biological studies 1629-58-9, Ethyl vinyl ketone 1653-30-1, 2-Undecanol 2009-74-7 2051-49-2, Hexanoic acid anhydride 2216-81-1, Heptyl propionate 2425-54-9, 1-Chlorotetradecane 2445-76-3, Hexyl propionate 2639-63-6, Hexyl butyrate 2639-64-7, Nonyl butyrate 4602-84-0, Farnesol 5454-09-1, Decyl butyrate 5454-19-3, Decyl propionate 5870-93-9, Heptyl butyrate 6032-29-7, 2-Pentanol 6728-26-3, trans-Hexen-2-al 26444-03-1, Tetradecenoic acid 27576-03-0, Dimethylstyrene 28933-77-9, Hexenyl acetate 37366-04-4, Octenyl acetate 41927-66-6, Eicosanyl butyrate 53184-67-1, Nonyl propionate 65591-14-2, Eicosanyl propionate 67412-66-2, Decenyl acetate 81570-28-7, cis-Tricosenoic acid 138483-59-7, Nonenyl acetate
RL: BIOL (Biological study)

(**honeybee** repellent contg., for repulsion from
pesticide-treated areas)

IT 138441-66-4, **Acetone**-benzyl acetate mixt. 138441-67-5

138441-68-6 138470-30-1

RL: BIOL (Biological study)

(synergistic repellent, for **honeybees**)

L7 ANSWER 38 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:449168 CAPLUS

DN 115:49168

TI Direct formation and subsequent substitution of remote ketone-functionalized organocopper reagents

AU Ebert, Greg W.; Klein, Walter R.

CS Coll. Buffalo, State Univ. New York, Buffalo, NY, 14222, USA

SO Journal of Organic Chemistry (1991), 56(15), 4744-7

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

OS CASREACT 115:49168

AB Remote ketone-functionalized aryl- and alkylcopper reagents were synthesized by the use of a highly activated form of zero-valent copper. 5-Bromo-2-**pentanone** and 4-iodobenzophenone undergo oxidative addn. with activated copper to form 5-cuprio-2-**pentanone** and 4-cupriobenzophenone, resp. These, in turn, can be cross-coupled with alkyl halides to produce the corresponding alkylated ketones and with acid chlorides to form the corresponding diketones. By use of this methodol., a two-step, one-pot synthesis of Me (E)-9-oxo-2-decenoate and 8-nonen-2-one were achieved. The former compd. is the Me ester of the "queen substance" of the honey **bee**, and the latter is part of an "attractant mixt." for cheese **mites** found in cheddar cheese. These syntheses were accomplished by converting com. available 6-bromo-2-**hexanone** to 6-cuprio-2-**hexanone** followed by cross-coupling with com. available Me 4-bromocrotonate and allyl bromide, resp.

AB Remote ketone-functionalized aryl- and alkylcopper reagents were synthesized by the use of a highly activated form of zero-valent copper. 5-Bromo-2-**pentanone** and 4-iodobenzophenone undergo oxidative addn. with activated copper to form 5-cuprio-2-**pentanone** and 4-cupriobenzophenone, resp. These, in turn, can be cross-coupled with alkyl halides to produce the corresponding alkylated ketones and with acid chlorides to form the corresponding diketones. By use of this methodol., a two-step, one-pot synthesis of Me (E)-9-oxo-2-decenoate and 8-nonen-2-one were achieved. The former compd. is the Me ester of the "queen substance" of the honey **bee**, and the latter is part of an "attractant mixt." for cheese **mites** found in cheddar cheese. These syntheses were accomplished by converting com. available 6-bromo-2-**hexanone** to 6-cuprio-

2-hexanone followed by cross-coupling with com.
 available Me 4-bromocrotonate and allyl bromide, resp.

ST pheromone honey **bee** cheese **mite**; copper reagent prepn
 coupling; oxidn addn bromopentanone iodobenzophenone organocopper; halide
 cross coupling cupriopentanone cupriobenzophenone; oxodecenoate honey
bee substance prepn; nonenone cheese **mite** attractant
 prepn; copper reaction bromohexenone; cupriohexenone coupling
 bromocrotonate allyl bromide

IT 1189-64-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as component of cheese **mite** attractant mixt.)

IT 5009-32-5P, 8-Nonen-2-one
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as component of honey **bee** "queen substance")

IT **591-78-6P, 2-Hexanone** 821-55-6P, 2-Nonanone
 3664-60-6P, 7-Octen-2-one 14171-89-2P 16538-91-3P, 2,9-Decanedione
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, from cupriopentanone)

IT 3884-71-7, 5-Bromo-2-pentanone 6136-66-9,
 4-Iodobenzophenone 10226-29-6, 6-Bromo-2-hexanone
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with activated copper)

L7 ANSWER 39 OF 85 CABA COPYRIGHT 2004 CABI on STN
 AN 95:194568 CABA
 DN 19951112494
 TI Control of the greater wax moth *Galleria mellonella* by strains of *Bacillus*
thuringiensis in the municipality of Tecoman, Colima, Mexico
 Control de la polilla mayor de la cera *Galleria mellonella* por cepas de
Bacillus thuringiensis en el municipio de Tecoman, Colima, Mexico
 AU Moran Rodriguez, C.; Sandoval y Trujillo, H.
 CS CIIDIR-IPN Unidad Durango, Zaragoza, 243, Durango, Dgo., Mexico.
 SO Revista Latinoamericana de Microbiologia, (1991) Vol. 33, No. 2-3, pp.
 203-207. 18 ref.
 ISSN: 0034-9771
 DT Journal
 LA Spanish
 SL English
 ED Entered STN: 19951115
 Last Updated on STN: 19951115

AB Serotypes *Bacillus thuringiensis* subsp. *thuringiensis* H-1, B. t. subsp.
aizawai H-7 and B. t. subsp. *galleriae* H-5a5b were cultured in B-5, Dubois
 and modified Faust media spore viability was determined. The spore
 complexes were tested against larvae and adults of *Galleria mellonella* and
Apis mellifera. Recovery of the spore-crystal complex was carried
 out by co-precipitation with lactose and **acetone**. The best
 results were obtained with B. t. subsp. *thuringiensis* cultures in the
 medium B-5, giving LD100 of 75 mg/kg of diet of *G. mellonella*, a biomass
 yield of 8 g (DW) per litre of medium, and a viable count of 2.8 x 10⁶
 spores/mg of DW, and were not toxic to *A. mellifera*. Field applications of
 3 g of spore-crystal complex sprayed inside beehives in Mexico gave
 protection against the **pest** for a minimum of 52 days.

AB . . . modified Faust media spore viability was determined. The spore
 complexes were tested against larvae and adults of *Galleria mellonella* and
Apis mellifera. Recovery of the spore-crystal complex was carried
 out by co-precipitation with lactose and **acetone**. The best
 results were obtained with B. t. subsp. *thuringiensis* cultures in the
 medium B-5, giving LD100 of 75 mg/kg. . . to *A. mellifera*. Field
 applications of 3 g of spore-crystal complex sprayed inside beehives in
 Mexico gave protection against the **pest** for a minimum of 52
 days.

BT insects; arthropods; invertebrates; animals; Lepidoptera; Hymenoptera;

Galleria; Pyralidae; **Apis**; Apidae; Bacillus thuringiensis;
 Bacillus; Bacillaceae; Firmicutes; bacteria; prokaryotes; North America;
 America; Developing Countries; Threshold Countries; Latin America; OECD
 Countries

CT Insect **pests**; biological control; pathogens; insect control;
 culture techniques; microbial **pesticides**; **pests**; honey
bees; control methods; toxicity

ORGN Lepidoptera; Pyralidae; Hymenoptera; Apidae; galleria mellonella;
apis mellifera; bacillus thuringiensis subsp. thuringiensis;
 bacillus thuringiensis subsp. aizawai; bacillus thuringiensis subsp.
 galleriae; Bacillus thuringiensis

L7 ANSWER 40 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1991-82072 CROPU I J D S G
 TI Avermectins, A Novel Class of Compounds: Implications for Use in
 Arthropod **Pest** Control.
 AU Lasota J A; Dybas R A
 CS Merck-USA
 LO Three Bridges, N.J., USA
 SO Annu.Rev.Entomol. (36, 91-117, 1991) 133 Ref.
 CODEN: ARENAA
 AV Merck Sharp & Dohme Research Laboratories, Agricultural Research and
 Development, Three Bridges, New Jersey, 08887, U.S.A.
 DT Journal
 LA English
 FA AB; LA; CT
 AB This paper reviews the use of avermectins in controlling arthropod
pests. Structure and chemistry, mode of action, and spectrum of
 activity (e.g. nematicidal, molluscicidal and insecticidal) of the
 avermectins are discussed. Environmental fate and toxicity of abamectin
 (avermectin B1) including degradation and metabolism, soil and crop
 residues and aquatic toxicity are examined. Laboratory and field studies
 evaluating the activity and use of abamectin against Formicidae,
Acarina, Blattidae, Psyllidae, and Lepidoptera are reported.
 Effects of abamectin on beneficial insects is also discussed. Resistance
 studies with abamectin and potential cross resistance in insects with
 resistance to various insecticides are also presented. MK-243 and
 ivermectin were mentioned.

TI Avermectins, A Novel Class of Compounds: Implications for Use in
 Arthropod **Pest** Control.

AB This paper reviews the use of avermectins in controlling arthropod
pests. Structure and chemistry, mode of action, and spectrum of
 activity (e.g. nematicidal, molluscicidal and insecticidal) of the
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 examined. Laboratory and field studies evaluating the activity and use
 of abamectin against Formicidae, **Acarina**, Blattidae, Psyllidae,
 and Lepidoptera are reported. Effects of abamectin on beneficial insects
 is also discussed. Resistance studies with abamectin and. . .

ABEX. . . Metaseiulus occidentalis, Diglyphus intermedius, Ganespidium
 hunteri, Chrysonotomyia, Chrysocharis, Discorygma, Aphytis melinus,
 Cryptolaemus montrouzieri, Euseius stipulatus, Phidippus audax, Eisenia
 foetida and **Apis** mellifera. Aquatic toxicity was discussed
 with reference to: bluegill fish, rainbow trout, Penaeus duorarum,
 Daphnia, Callinectes, Ostrea edulis, mallard duck. . .

CT [01] FIELD *FT; N.J. *FT; REVIEW *FT; MAIN-TOPIC *FT; LAB.TEST *FT;
 INSECTICIDE *FT; NEMATICIDE *FT; MOLLUSCICIDE *FT; **ACARICIDE**
 *FT; ACTION-MECHANISM *FT; NEUROTOX. *FT; METABOLISM *FT; DEGRADATION
 *FT; RESIDUE-PERSISTENCE *FT; BIOACCUMULATION *FT; SOIL *FT; AQUATIC
 *FT; INTOXICATION *FT; NON-TARGET *FT; NAT.CONTROL-AGENT *FT; ENV.
 *FT; INSECTICIDE-RESISTANCE *FT; **ACARICIDE**-RESISTANCE *FT;
 CROSS-RESISTANCE *FT; DRIFT *FT; ABSENCE *FT; BAIT *FT; FOLIAR *FT;
 SPRAY *FT; USA *FT; AREA-AMERICA *FT; RESIDUE *FT; ACCUMULATION. . .

*FT; APPL. TECHNIQUE *FT; TR *FT; SE *FT; DM *FT; ST *FT

[02] IVOVEC *TR; IVERMECTIN *TR; AFFIRM *TR; AVID *TR; AGRI-MEK
 *TR; AVERMECTIN-B1 *TR; AGRIMEC *TR; VERTIMEC *TR; AVERMECTIN *TR;
 ZEPHYR *TR; MK-243 *TR; AFFIRM *SE; AVID *SE; AGRI-MEK *SE;
 AVERMECTIN-B1 *SE; AGRIMEC *SE; VERTIMEC *SE; AVERMECTIN *SE; ZEPHYR
 *SE; AFFIRM *ST; AVID *ST; AGRI-MEK *ST; AVERMECTIN-B1 *ST;
 AGRIMEC *ST; VERTIMEC *ST; AVERMECTIN *ST; ZEPHYR *ST; AFFIRM *DM;
 AVID *DM; AGRI-MEK *DM; AVERMECTIN-B1 *DM; AGRIMEC *DM;
 VERTIMEC *DM; AVERMECTIN *DM; ZEPHYR *DM; REVIEW *FT; TR *FT; DM *FT;
 SE *FT; ST. . . CHRYSOCHARIS *SE; DISCORYGMA *SE; APHYTIS *SE;
 MELINUS *SE; CRYPTOLAEMUS *SE; MONTROUZIERI *SE; EUSEIUS *TR;
 STIPULATUS *SE; PHIDIPPUS *SE; AUDAX *SE; **APIS** *SE;
 MELLIFERA *SE; **BEE** *SE; DAPHNIA *SE; EISENIA *SE; FOETIDA
 *SE; PENAEUS *SE; DUORARUM *SE; CALLINECTES *SE; SAPIDUS *SE; OSTREA
 *SE; EDULIS *SE; REVIEW. . .

[02] IVOVEC *TR; IVERMECTIN *TR; AFFIRM *TR; AVID *TR; AGRI-MEK
 *TR; AVERMECTIN-B1 *TR; AGRIMEC *TR; VERTIMEC *TR; AVERMECTIN *TR;
 ZEPHYR *TR; MK-243 *TR; AFFIRM *SE; AVID *SE; AGRI-MEK *SE;
 AVERMECTIN-B1 *SE; AGRIMEC *SE; VERTIMEC *SE; AVERMECTIN *SE; ZEPHYR
 *SE; AFFIRM *ST; AVID *ST; AGRI-MEK *ST; AVERMECTIN-B1 *ST;
 AGRIMEC *ST; VERTIMEC *ST; AVERMECTIN *ST; ZEPHYR *ST; AFFIRM *DM;
 AVID *DM; AGRI-MEK *DM; AVERMECTIN-B1 *DM; AGRIMEC *DM;
 VERTIMEC *DM; AVERMECTIN *DM; ZEPHYR *DM; REVIEW *FT; TR *FT; DM *FT;
 SE *FT; ST. . . CHRYSOCHARIS *SE; DISCORYGMA *SE; APHYTIS *SE;
 MELINUS *SE; CRYPTOLAEMUS *SE; MONTROUZIERI *SE; EUSEIUS *TR;
 STIPULATUS *SE; PHIDIPPUS *SE; AUDAX *SE; **APIS** *SE;
 MELLIFERA *SE; **BEE** *SE; DAPHNIA *SE; EISENIA *SE; FOETIDA
 *SE; PENAEUS *SE; DUORARUM *SE; CALLINECTES *SE; SAPIDUS *SE; OSTREA
 *SE; EDULIS *SE; REVIEW. . .

[05]. . . CHRYSOCHARIS *SE; DISCORYGMA *SE; APHYTIS *SE; MELINUS *SE;
 CRYPTOLAEMUS *SE; MONTROUZIERI *SE; EUSEIUS *TR; STIPULATUS *SE;
 PHIDIPPUS *SE; AUDAX *SE; **APIS** *SE; MELLIFERA *SE;
BEE *SE; DAPHNIA *SE; EISENIA *SE; FOETIDA *SE; PENAEUS *SE;
 DUORARUM *SE; CALLINECTES *SE; SAPIDUS *SE; OSTREA *SE; EDULIS *SE;
 REVIEW. . .

L7 ANSWER 41 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1990:174103 CAPLUS
 DN 112:174103
 TI Synergistic varroicide aerosol containing **acetone** for
honeybee colonies
 IN Vesely, Vladimir; Titera, Dalibor; Kamler, Frantisek
 PA Czech.
 SO Czech., 2 pp.
 CODEN: CZXXA9
 DT Patent
 LA Czech
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 261124	B1	19890112	CS 1986-9452	19861217
PRAI	CS 1986-9452		19861217		
AB	A synergistic compn. for protection of honeybees against mites (Varroidae) comprises acaricide 1 and Me2CO 50-5000 parts. The compn. is used as an aerosol for bee colonies.				
TI	Synergistic varroicide aerosol containing acetone for honeybee colonies				
AB	A synergistic compn. for protection of honeybees against mites (Varroidae) comprises acaricide 1 and Me2CO 50-5000 parts. The compn. is used as an aerosol for bee colonies.				

ST **honeybee acaricide acetone** synergism;
Varroidae **honeybee acaricide acetone** mixt

IT Varroidae
(protection of **honeybees** from, **acetone-**
acaricide mixts. for)

IT **Honeybee**
(synergistic **acaricides** for, **acetone-**
acaricide mixts. as, for protection from Varroidae)

IT **Acaricides**
(synergistic, mixts. with **acetone**, for protection of
honeybees from Varroidae)

IT 126450-41-7 126450-42-8
RL: BIOL (Biological study)
(for protection of **honeybees** from Varroidae, synergistic)

IT **67-64-1D, Acetone**, mixts. with **acaricides**
RL: BIOL (Biological study)
(synergistic, for protection of **honeybees** from Varroidae)

L7 ANSWER 42 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:489530 CAPLUS

DN 115:89530

TI Olfacto-gustatory behavior of **Apis** florea F. to some carbonyl
compounds

AU Gupta, Mahavir

CS Dep. Zool., Haryana Agric. Univ., Hisar, 125004, India

SO Journal of Animal Morphology and Physiology (1989), 36(2), 139-51
CODEN: JAMPA2; ISSN: 0021-8804

DT Journal

LA English

AB **Pesticides** used for plant protection are generally hazardous to
honeybees. To protect them from **pesticidal** hazards, a
search was conducted to find chems. which can serve as repellents to
Apis florea for a duration of 6-8 h of their diurnal activity.
Seven compds. were evaluated as repellents by the olfacto-gustatory
method. These were evaluated at concns. ranging from 0.0625 to 5 g
liter-1. The differential feeding of **bees** on sugar water and
chem. sugar solns. provided an index of repellency. On the basis of max.
percent repellency, Et benzyl ketone proved to be the best repellent
compd.

TI Olfacto-gustatory behavior of **Apis** florea F. to some carbonyl
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chem. sugar solns. provided an index of repellency. On the basis of max.
percent repellency, Et benzyl ketone proved to be the best repellent
compd.

ST carbonyl compd repellent **honeybee; Apis** carbonyl compd
repellent

IT Insect repellents
(for **honeybees**, carbonyl compds. as)

IT Behavior
(olfacto-gustatory, of **honeybee** to carbonyl compds.)

IT **Honeybee**
(A. florea, olfacto-gustatory behavior of, to carbonyl compds.,
repellents in relation to)

IT 105-58-8, Diethyl carbonate 123-54-6, Acetyl **acetone**,
biological studies 141-97-9, Ethyl acetoacetate 1007-32-5, Ethyl

benzyl ketone 2550-26-7, Benzyl **acetone** 6683-92-7, 1-Phenyl-
2-pentanone 25870-62-6, 1-Phenyl-**2-**
hexanone
RL: BIOL (Biological study)
(olfacto-gustatory behavior of **honeybee** to)

- L7 ANSWER 43 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:419430 CAPLUS
DN 111:19430
TI Olfactometric evaluation of the response of **Apis** florea to some repellent ketones
AU Gupta, Mahavir
CS Dep. Zool., Haryana Agric. Univ., Hisar, 125-004, India
SO Zoologische Jahrbuecher, Abteilung fuer Allgemeine Zoologie und Physiologie der Tiere (1989), 93(1), 97-104
CODEN: ZJZPAY; ISSN: 0044-5185
DT Journal
LA English
AB Nine ketones were tested for their **bee**-repellent power for possible use in **pesticide** formulations in split-arena repellency tests in an olfactometer at concns. of 625 .times. 10-5-5 .times. 10-1%. None of the compds. elicited 100% repellency, whereby their repellent effect directly correlated with concn. until a certain level (generally between 0.05% and 0.2%) after which effects leveled off. On the basis of this observation, compds. were classified into 3 groups with cut-off points at 0.05, 0.10, and 0.20% concns. The most repellent (lowest cut-off point) compds. were methyl-n-octyl ketone, p-methylacetophenone, 3- and 4-methylcyclohexanone, and cycloheptanone.
TI Olfactometric evaluation of the response of **Apis** florea to some repellent ketones
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ST ketone **bee** repellent; **honeybee** repellent ketone
IT Ketones, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**honeybee** olfactory repellency by)
IT **Honeybee**
(ketones as repellents for)
IT Insect repellents
(ketones as, for **honeybee**)
IT 93-55-0, Propiophenone 118-93-4, 2'-Hydroxyacetophenone 122-00-9, p-Methylacetophenone **123-19-3**, **4-Heptanone** 502-42-1, Cycloheptanone 583-60-8, 2-Methylcyclohexanone 589-92-4, 4-Methylcyclohexanone 591-24-2, 3-Methylcyclohexanone 693-54-9, Methyl-n-octyl ketone
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**honeybee** olfactory repellency by)
L7 ANSWER 44 OF 85 CABA COPYRIGHT 2004 CABI on STN
AN 91:100930 CABA
DN 19910230683
TI Effects of sublethal exposure to diazinon on longevity and temporal

division of labor in the honey **bee** (Hymenoptera: Apidae)

AU MacKenzie, K. E.; Winston, M. L.
 CS Dept. Biological Sci., Center for Pest Managemnet, Simon Fraser Univ.,
 Burnaby, BC V5A 1S6, Canada.
 SO Journal of Economic Entomology, (1989) Vol. 82, No. 1, pp. 75-82. Bb. 37
 ref.
 ISSN: 0022-0493
 DT Journal
 LA English
 ED Entered STN: 19941101
 Last Updated on STN: 19941101
 AB When worker **Apis mellifera** were exposed to sublethal
pesticide concentrations, the majority of tests revealed no
 significant differences between control and treatment groups in the ages
 when tasks were conducted. Lifespan was the most consistently affected
 parameter studied, with division of labour tasks not consistently
 affected. Single exposures to various concentrations of diazinon reduced
 lifespan in 1 case and altered task performance in 3 cases - "clean",
 "entrance", and "forage". In experiments that exposed workers 1, 2, or 3
 times to **acetone** or a dose of diazinon causing approximately 10%
 mortality, a number of adverse effects were seen; the majority were in the
 single-exposure groups. Lifespan was reduced in 2 cases, and certain
 temporal division of labour tasks were adversely affected, especially
 nectar handling and foraging. Treatment age had a significant effect on
 the results, with workers treated at emergence being more sensitive to
pesticide exposure than older workers (14 of the 20 significant
 results reported). Stress in the form of **pesticide** exposure and
 handling appears to be more harmful to newly emerged **bees** than
 to any other age group. Lifespan and foraging measurements are potential
 methods for evaluating sublethal **pesticide** stress on
honeybees.<new para>ADDITIONAL ABSTRACT:<new para>The effects of
 exposure to sublethal dosages of diazinon on temporal division of labour
 and longevity of workers of **Apis mellifera** were studied in the
 laboratory. The majority of tests revealed no significant differences
 between untreated and treated groups in the ages when tasks were
 conducted. Longevity was the most consistently affected category studied,
 with division of labour being not consistently affected. Single exposures
 to various concn of diazinon reduced longevity in one case and altered
 task performance in 3 cases. In experiments that exposed workers once,
 twice or 3 times to **acetone** or a dose of diazinon causing
 approximately 10% mortality, a number of adverse effects were seen; the
 majority were in the single-exposure groups. Longevity was reduced in 2
 cases, and certain temporal division-of-labour tasks were adversely
 affected, especially nectar handling and foraging. Treatment age had a
 significant effect on the results, with workers treated at emergence being
 more sensitive to **pesticide** exposure than older workers. Stress
 in the form of **pesticide** exposure and handling appeared to be
 more harmful to newly emerged **bees** than any other group.
 TI Effects of sublethal exposure to diazinon on longevity and temporal
 division of labor in the honey **bee** (Hymenoptera: Apidae).
 AB When worker **Apis mellifera** were exposed to sublethal
pesticide concentrations, the majority of tests revealed no
 significant differences between control and treatment groups in the ages
 when tasks were. . . performance in 3 cases - "clean", "entrance", and
 "forage". In experiments that exposed workers 1, 2, or 3 times to
acetone or a dose of diazinon causing approximately 10% mortality,
 a number of adverse effects were seen; the majority were in. . . and
 foraging. Treatment age had a significant effect on the results, with
 workers treated at emergence being more sensitive to **pesticide**
 exposure than older workers (14 of the 20 significant results reported).
 Stress in the form of **pesticide** exposure and handling appears to
 be more harmful to newly emerged **bees** than to any other age

group. Lifespan and foraging measurements are potential methods for evaluating sublethal **pesticide** stress on **honeybees**.
 .<new para>ADDITIONAL ABSTRACT:<new para>The effects of exposure to sublethal dosages of diazinon on temporal division of labour and longevity of workers of **Apis mellifera** were studied in the laboratory. The majority of tests revealed no significant differences between untreated and treated groups in. . . one case and altered task performance in 3 cases. In experiments that exposed workers once, twice or 3 times to **acetone** or a dose of diazinon causing approximately 10% mortality, a number of adverse effects were seen; the majority were in. . . and foraging. Treatment age had a significant effect on the results, with workers treated at emergence being more sensitive to **pesticide** exposure than older workers. Stress in the form of **pesticide** exposure and handling appeared to be more harmful to newly emerged **bees** than any other group.

BT Hymenoptera; insects; arthropods; invertebrates; animals; **Apis**;
 Apidae

CT Poisoning; honey **bees**; diazinon; worker honey **bees**;
 lifespan; age; effects; honey **bee** colonies; division of labour;
 Beneficial insects; Pollinators; Nontarget effects; insecticides; biology;
 agricultural entomology

ORGN Apidae; Hymenoptera; Insects; **Apis mellifera**

L7 ANSWER 45 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1989-069186 [10] WPIDS

DNC C1989-030792

TI Agents against **Varroa Jacobsoni mite** in **bee**
 colonies - contg. coumarinyl thiono phosphate and copper chelate of ethyl
 aceto acetate, **acetone** or acetic acid.

DC A96 B05 C01

IN BEKKER, K H; BREMER, R; FORIGEN, F; HESSE, B; KOCHMANN, W; KORNER, H J;
 STAECK, D

PA (FARF) VEB CHEMIEKOMB BITTERFELD

CYC 1

PI DD 260859 A 19881012 (198910)* 7p

DD 260859 B 19900418 (199039)

ADT DD 260859 A DD 1987-304036 19870622

PRAI DD 1987-304036 19870622

AB DD 260859 A UPAB: 19930923

New agents for combatting the **mite Varroa jacobsoni** in normally developed **bee** colonies are produced by mixing (A) a coumarinyl thiophosphate of formula (I) and (B) a copper chelate of formula (III), (IV) or (V) with (C) extending agents and/or solvents, emulsifiers and/or dispersing agents by known methods, the mixture being diluted with water when used.

Pref. agents contain 0.02-0.6g component B per 2-35g component A. Pref. solvents are alcohols, glycols, ketones, polyglycols and sulphoxides. Pref. emulsifiers or dispersing agents are alkylaryl polyglycol ethers, protein hydrolysates and/or natural products. The agents are pref. administered in pollen substitutes. Generally 50g pollen substitute contg. 50-1000 mg (pref. 200 mg) component A and up to 17 mg component B are administered per colony per day for 14 days.

USE/ADVANTAGE - Highly effective, easy-to-use preparations which due to the synergism between components (A) and (B) are highly active against **Varroa jacobsonii** at concns. which are harmless to **bees**.

0/0

TI Agents against **Varroa Jacobsoni mite** in **bee**
 colonies - contg. coumarinyl thiono phosphate and copper chelate of ethyl
 aceto acetate, **acetone** or acetic acid.

AB DD 260859 UPAB: 19930923

New agents for combatting the **mite Varroa jacobsoni** in normally developed **bee** colonies are produced by mixing (A) a

coumarinyl thiophosphate of formula (I) and (B) a copper chelate of formula (III),. . . USE/ADVANTAGE - Highly effective, easy-to-use preparations which due to the synergism between components (A) and (B) are highly active against **Varroa jacobsonii** at concns. which are harmless to **bees**.

0/0

ABEQ DD 260859 UPAB: 19930923

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0/0

TT TT: AGENT **VARROA MITE BEE** COLONY CONTAIN
COUMARINYL THIONO PHOSPHATE COPPER CHELATE ETHYL ACETO ACETATE
ACETONE ACETIC ACID.

L7 ANSWER 46 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 88:112350 CABA

DN 19880226147

TI The repellent effect of two pyrethroid insecticides on the honey
bee

AU Rieth, J. P.; Levin, M. D.

CS Dept. Entomology, Univ. Arizona, Tucson, AZ, USA.

SO Physiological Entomology, (1988) Vol. 13, No. 2, pp. 213-218. Bj. 27 ref.
ISSN: 0307-6962

DT Journal

LA English

ED Entered STN: 19941101

Last Updated on STN: 19941101

AB An improved laboratory method for assessing the repellent effect of pyrethroid insecticides on insects was developed using small colonies of **honeybees** in flight cages. Conditioning to scented feeders allowed the separation of foraging **bees** from a single colony into paired treatment and control groups. Exposure to insecticides was accomplished by treating feeders with 1 ml **acetone** containing a known amount of permethrin or cypermethrin. Control feeders were treated with **acetone** only. This method primarily exposed the tarsi and the abdominal venter of the **bees** to the insecticide. **Bees** which contacted a pyrethroid returned to the colony, where they showed inactivity for periods of 1-24 h. After recovery, normal foraging resumed. No effects on memory were observed, and there appeared to be no olfactory repellent effect. It is suggested that the so-called repellent effect of pyrethroid insecticides is more accurately described as "sublethal toxicity resulting in transitory inhibition of activity". D. G. Lowe.<new para>ADDITIONAL ABSTRACT:<new para>An improved model for the repellent effect of pyrethroid insecticides on insects was developed using small colonies of **honeybees** (*Apis mellifera*) in flight cages. Conditioning to scented feeders allowed the separation of foraging **bees** from a single colony into paired treatment and control groups. The repellent response was characterized as a sublethal toxic effect resulting in transitory inhibition of activity. Permethrin and cypermethrin were shown to be contact repellents to **honeybees**; exposure was primarily to the tarsi and abdominal venter. Repellency was fully reversible within 24 h. No permanent effects on either memory function or foraging efficiency were observed following acute exposure.

TI The repellent effect of two pyrethroid insecticides on the honey
bee.

AB An improved laboratory method for assessing the repellent effect of pyrethroid insecticides on insects was developed using small colonies of

honeybees in flight cages. Conditioning to scented feeders allowed the separation of foraging **bees** from a single colony into paired treatment and control groups. Exposure to insecticides was accomplished by treating feeders with 1 ml **acetone** containing a known amount of permethrin or cypermethrin. Control feeders were treated with **acetone** only. This method primarily exposed the tarsi and the abdominal venter of the **bees** to the insecticide. **Bees** which contacted a pyrethroid returned to the colony, where they showed inactivity for periods of 1-24 h. After recovery, normal. . . .
 para>ADDITIONAL ABSTRACT:<new para>An improved model for the repellent effect of pyrethroid insecticides on insects was developed using small colonies of **honeybees** (**Apis mellifera**) in flight cages. Conditioning to scented feeders allowed the separation of foraging **bees** from a single colony into paired treatment and control groups. The repellent response was characterized as a sublethal toxic effect resulting in transitory inhibition of activity. Permethrin and cypermethrin were shown to be contact repellents to **honeybees**; exposure was primarily to the tarsi and abdominal venter. Repellency was fully reversible within 24 h. No permanent effects on. . . .

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; botanical insecticides; insecticides; **pesticides**; pyrethroid insecticides

CT Poisoning; HONEY **BEES**; pyrethrins; Toxicity; repellency; Pollinators; Nontarget effects; Repellents; insecticides; Permethrin; Cypermethrin; Techniques; models; Pyrethroid insecticides; pollination; agricultural entomology

ORGN Hymenoptera; Apidae; **Apis mellifera**

L7 ANSWER 47 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 8

AN 1987:137242 CAPLUS

DN 106:137242

TI Method of determining organochlorine **pesticides** in apicultural products

IN Zharov, A. V.

PA All-Union Scientific-Research Institute of Veterinary Entomology and Arachnology, USSR

SO U.S.S.R.

From: Otkrytiya, Izobret. 1987, (3), 186.

CODEN: URXXAF

DT Patent

LA Russian

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	SU 1285366	A1	19870123	SU 1984-3741877	19840507
PRAI	SU 1984-3741877		19840507		

AB Organochlorine **pesticide** residues in apiculture products are detd. by extg. the products with an org. solvent, purifying the ext. by thin-layer chromatog., desorbing the **pesticides** with a mixt. of org. solvents, and carrying out gas-chromatog. sepn. and detection of the components to be analyzed. The precision and rapidity of the detn. are increased by carrying out the extn. at 80-95.degree. with a mixt. of dimethylsulfoxide and a satd. aq. soln. of a salt with a soly. of 20-50 g/100 g H2O, in a 1.3:1 to 1:1.3 ratio. For desorption of the **pesticides** a mixt. of Me2CO and xylene in a 1:6 to 1:1/ ratio is used.

TI Method of determining organochlorine **pesticides** in apicultural products

AB Organochlorine **pesticide** residues in apiculture products are detd. by extg. the products with an org. solvent, purifying the ext. by thin-layer chromatog., desorbing the **pesticides** with a mixt. of org. solvents, and carrying out gas-chromatog. sepn. and detection of the

components to be analyzed. The precision and rapidity of the detn. are increased by carrying out the extn. at 80-95.degree. with a mixt. of dimethylsulfoxide and a satd. aq. soln. of a salt with a soly. of 20-50 g/100 g H₂O, in a 1.3:1 to 1:1.3 ratio. For desorption of the **pesticides** a mixt. of Me₂CO and xylene in a 1:6 to 1:1/ ratio is used.

ST **pesticide** organochlorine chromatog apiculture

IT **Pesticides**

(chlorine-contg., extn. and chromatog. detn. of, in apicultural products)

IT **Honeybee**

(organochlorine **pesticides** extn. from products of, for chromatog. detn.)

IT Honey

(organochlorine **pesticides** extn. from, for chromatog. detn.)

IT 1330-20-7, Xylene, biological studies

RL: BIOL (Biological study)

(solvent contg. **acetone** and, for organochlorine **pesticides**)

IT **67-64-1, Acetone**, biological studies

RL: BIOL (Biological study)

(solvent contg. xylene and, for organochlorine **pesticides**)

IT 67-68-5, Dimethyl sulfoxide, biological studies

RL: BIOL (Biological study)

(solvent, for organochlorine **pesticides** of apicultural products)

L7 ANSWER 48 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 88:42905 CABA

DN 19880225409

TI Impairment of a classical conditioned response of the honey **bee** (**Apis mellifera** L.) by sublethal doses of synthetic pyrethroid insecticides

AU Taylor, K. S.; Waller, G. D.; Crowder, L. A.

CS Carl Hayden Bee Res. Center, ARS, USDA, 2000 E. Allen Rd., Tucson, AZ 85719, USA.

SO Apidologie, (1987) Vol. 18, No. 3, pp. 243-252. Bj.

ISSN: 0044-8435

DT Journal

LA English

SL French; German

ED Entered STN: 19941101

Last Updated on STN: 19941101

AB A classical conditioning experiment was used to compare the odour-mediated learned responses of (A) **honeybees** previously exposed to one of 6 pyrethroid insecticides dissolved in **acetone**, and (B) **honeybees** exposed only to **acetone**. The latter **bees** gave about 60% positive responses after a single training bout, increasing to 70, 80 and 90% after 2, 3 and 4 training bouts, respectively. Training bouts 4-7 resulted in no further increase in positive responses (non-significant sequence effect). Pyrethroid-treated **bees** learned at a slower rate but continued to show an improvement in positive responses throughout the test. However, treated **bees** attained only c. 60% positive responses after their seventh training bout. Odour training responses were least affected by fluvalinate and most seriously disrupted by flucythrinate and cyfluthrin; permethrin, fenvalerate, and cypermethrin were intermediate in their effect on the conditioned response. Author.

TI Impairment of a classical conditioned response of the honey **bee** (**Apis mellifera** L.) by sublethal doses of synthetic pyrethroid insecticides.

AB A classical conditioning experiment was used to compare the odour-mediated

learned responses of (A) **honeybees** previously exposed to one of 6 pyrethroid insecticides dissolved in **acetone**, and (B) **honeybees** exposed only to **acetone**. The latter **bees** gave about 60% positive responses after a single training bout, increasing to 70, 80 and 90% after 2, 3 and 4 training bouts, respectively. Training bouts 4-7 resulted in no further increase in positive responses (non-significant sequence effect). Pyrethroid-treated **bees** learned at a slower rate but continued to show an improvement in positive responses throughout the test. However, treated **bees** attained only c. 60% positive responses after their seventh training bout. Odour training responses were least affected by fluvalinate and. . .

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; botanical insecticides; insecticides; **pesticides**

CT HONEY **BEES**; learning; Poisoning; pyrethrins

L7 ANSWER 49 OF 85 CABA COPYRIGHT 2004 CABI on STN DUPLICATE 9

AN 89:2721 CABA

DN 19890226418

TI Studies on the efficacy of coumaphos and amitraz used as systemic preparations for the control of **Varroa jacobsoni**
Badania nad przydatnos[acute]ciq kumafosu i amitrazu zastosowanych jako preparaty ukadowe do zwalczania inwazji V. jacobsoni

AU Kostecki, R.; Jedruszuk, A.

CS Zakad Badania Chorob Owadow Uzytkowych, Inst. Weterynarii, ul. Poznan[acute]ska 35, 62-020 Swarzedz, Poland.

SO Medycyna Weterynaryjna, (1987) Vol. 43, No. 4, pp. 230-233. Bc. ISSN: 0025-8628

DT Journal

LA Polish

SL English; Russian

ED Entered STN: 19941101
Last Updated on STN: 19941101

AB Substances similar to the systemic **acaricide** coumaphos were produced in Poland. Their solutions in **acetone**, with an emulsifier, contained 40 mg/ml of the active substance. The following substances were used: VJ-11, VJ-12, VJ-36, VJ-45, VJ-52, VJ-53, VJ-55, VJ-58, VJ-60, VJ-67 and amitraz. Coumaphos (VJ-44) was also used. Investigations on therapeutic efficacy and any side-effects were performed in autumn 1986. An aliquot of 1.0 ml of the tested chemical was added to 50 ml of water and the aqueous emulsion was uniformly applied to **bees** in the **bee**-spaces. Two applications at an interval of 7 days were used. The results confirmed the efficacy of coumaphos and amitraz for the control of **Varroa**. Similar results were also noted with VJ-45, VJ-52, VJ-53 and VJ-58. These substances appeared to be practically harmless to **bees**. CENTREQUAD Author.

TI [Studies on the efficacy of coumaphos and amitraz used as systemic preparations for the control of **Varroa jacobsoni**].
Badania nad przydatnos[acute]ciq kumafosu i amitrazu zastosowanych jako preparaty ukadowe do zwalczania inwazji V. jacobsoni.

AB Substances similar to the systemic **acaricide** coumaphos were produced in Poland. Their solutions in **acetone**, with an emulsifier, contained 40 mg/ml of the active substance. The following substances were used: VJ-11, VJ-12, VJ-36, VJ-45, VJ-52,. . . ml of the tested chemical was added to 50 ml of water and the aqueous emulsion was uniformly applied to **bees** in the **bee**-spaces. Two applications at an interval of 7 days were used. The results confirmed the efficacy of coumaphos and amitraz for the control of **Varroa**. Similar results were also noted with VJ-45, VJ-52, VJ-53 and VJ-58. These substances appeared to be practically harmless to **bees**. CENTREQUAD Author.

BT **Varroa**; Varroidae; Mesostigmata; mites; **Acari**
; Arachnida; arthropods; invertebrates; animals

CT **Pests; honey bees; control methods; Coumaphos**
ORGN **Varroa jacobsoni**

L7 ANSWER 50 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:452413 CAPLUS
DN 111:52413
TI Olfactory response of **Apis florea** F. to some aryl ketones
AU Gupta, Mahavir
CS Dep. Zool., Haryana Agric. Univ., Hisar, 125004, India
SO Journal of Animal Morphology and Physiology (1987), 34(1-2), 157-62
CODEN: JAMPA2; ISSN: 0021-8804

DT Journal
LA English

AB Et benzyl ketone, benzylacetone, 1-phenyl-2-pentanone, and 1-phenyl-2-hexanone were evaluated for repellent potency to **honeybees** by using an olfactometer. Av. repellancy, in decreasing potency, was Et benzyl ketone (98.5%), benzylacetone (86.2%), 1-phenyl-2-hexanone (83.8%), and 1-phenyl-2-pentanone (83.5%). Repellancy increased with increasing dosage up to 1 g/L for benzyl acetone and 4 g/L for the others. These compds. may be useful repellents in **pesticides** toxic to **honeybees**.

TI Olfactory response of **Apis florea** F. to some aryl ketones
AB Et benzyl ketone, benzylacetone, 1-phenyl-2-pentanone, and 1-phenyl-2-hexanone were evaluated for repellent potency to **honeybees** by using an olfactometer. Av. repellancy, in decreasing potency, was Et benzyl ketone (98.5%), benzylacetone (86.2%), 1-phenyl-2-hexanone (83.8%), and 1-phenyl-2-pentanone (83.5%). Repellancy increased with increasing dosage up to 1 g/L for benzyl acetone and 4 g/L for the others. These compds. may be useful repellents in **pesticides** toxic to **honeybees**.

ST aryl ketone olfaction **honeybee; Apis** aryl ketone repellent olfaction

IT Insect repellents
(for **honeybees**, aryl ketones as)

IT Olfaction
(of aryl ketones, by **honeybee**, repellent activity in relation to)

IT Ketones, biological studies
RL: BIOL (Biological study)
(aryl, repellent potency of, to **honeybees**)

IT **Honeybee**
(**A. florea**, aryl ketones repellent potency to)

IT 1007-32-5, Ethyl benzyl ketone 2550-26-7, Benzylacetone 6683-92-7,
1-Phenyl-2-pentanone 25870-62-6, 1-Phenyl-2-hexanone
RL: BIOL (Biological study)
(repellent potency of, to **honeybees**)

L7 ANSWER 51 OF 85 CABA COPYRIGHT 2004 CABI on STN
AN 87:72544 CABA
DN 19870219917
TI The behaviour of insecticide-exposed honey **bees**
AU Cox, R. L.; Wilson, W. T.
CS Univ. Wyoming, Laramie, WY, USA.
SO American Bee Journal, (1987) Vol. 127, No. 2, pp. 118-119. Bj.
ISSN: 0002-7626
DT Journal
LA English
ED Entered STN: 19941101
Last Updated on STN: 19941101

AB The behaviour of groups of 30 or 60 young adult workers (5-10 days old) was observed after applying to each **bee** 1.0 or 10 [micro]g of a highly toxic insecticide in **acetone**. Permethrin caused the earliest abnormal reaction, but the **bees** were slow to die. Those treated with parathion were slow to show abnormal behaviour, but then died quickly. Dieldrin and carbofuran caused similar but slower responses. All treated **bees** showed one or more of the following symptoms: incoordination, lying in a supine or side position, general paralysis, no detectable movement (assumed dead). P. Walker.

TI The behaviour of insecticide-exposed honey **bees**.

AB The behaviour of groups of 30 or 60 young adult workers (5-10 days old) was observed after applying to each **bee** 1.0 or 10 [micro]g of a highly toxic insecticide in **acetone**. Permethrin caused the earliest abnormal reaction, but the **bees** were slow to die. Those treated with parathion were slow to show abnormal behaviour, but then died quickly. Dieldrin and carbofuran caused similar but slower responses. All treated **bees** showed one or more of the following symptoms: incoordination, lying in a supine or side position, general paralysis, no detectable movement. . . .

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; **pesticides**

CT Poisoning; HONEY **BEEs**; insecticides; behaviour

L7 ANSWER 52 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1987-83689 CROPU I S
TI Intercolony Variation in **Pesticide** Detoxification by the Honey **Bee** (Hymenoptera: Apidae).
AU Smirle M J; Winston M L
LO Burnaby, B.C., Can.
SO J.Econ.Entomol. (80, No. 1, 5-8, 1987) 2 Fig. 2 Tab. 14 Ref.
CODEN: JEENAI
AV Center for Pest Management, Department of Biological Sciences, Simon Fraser University, Burnaby, British Columbia V5A 1S6 Canada.
DT Journal
LA English
FA LA; CT
AB Significant variations in polysubstrate monooxygenase activity, as measured by the in-vitro epoxidation of aldrin to dieldrin were found amongst spring, summer and fall colonies of honey **bees**. The colonies also varied in their detoxification capacity from season to season, being least able to metabolize aldrin in the spring. In further tests, worker **bees** were treated on the dorsal surface of the thorax with 1 ul technical diazinon in **acetone**. Significant regression of the LD50 of diazinon on aldrin epoxidase activity indicated the involvement of these enzymes in intercolony diazinon resistance. Studies of a number of different populations with different monooxygenase activities may throw light on metabolism of phosphorothioate insecticides.

TI Intercolony Variation in **Pesticide** Detoxification by the Honey **Bee** (Hymenoptera: Apidae).

AB. . . as measured by the in-vitro epoxidation of aldrin to dieldrin were found amongst spring, summer and fall colonies of honey **bees**. The colonies also varied in their detoxification capacity from season to season, being least able to metabolize aldrin in the spring. In further tests, worker **bees** were treated on the dorsal surface of the thorax with 1 ul technical diazinon in **acetone**. Significant regression of the LD50 of diazinon on aldrin epoxidase activity indicated the involvement of these enzymes in intercolony diazinon. . . .

CT **BEE** *DM; **APIS** *DM; MELLIFERA *DM; APIDAE *DM;
INTERCOLONY *FT; VARIATION *FT; DETOXICATION *FT; METABOLISM *FT;
EC-1.14.14.1 *FT; ALDRIN-EPOXIDASE *FT; ACT. *FT; FLAVOPROTEIN-LINKED-MONOOXYGENASE. . . .

[03] DIAZINON *DM; LD50 *FT; INSECTICIDE-RESISTANCE *FT; INSECTICIDES *FT;
ACARICIDES *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DIAZINON *RN; DM *FT

L7 ANSWER 53 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1986-85075 CROPU A S I

TI Determination of Carbaryl in **Honeybees** and Pollen by
High-Performance Liquid Chromatography.

AU Spittler T D; Marafioti R A; Helfman G W; Morse R A

LO Geneva, N.Y., USA

SO J.Chromatogr. (352, 439-43, 1986) 3 Fig. 17 Ref. (Z89/ARB)

CODEN: JOCRAM

AV Pesticide Residue Laboratories, Department of Food Science and
Technology, New York State Agricultural Experiment Station, Cornell
University, Geneva, NY 14456, U.S.A.

DT Journal

LA English

FA AB; LA; CT; MPC

AB The HPLC determination of carbaryl (CAR) in **honeybee** and pollen
samples was reported. 200 Dead **bee** and pollen samples (where
available) were obtained from areas of reported **bee** kills and
areas surveyed for recent **pesticide** applications. Organic
solvent extracts of samples were examined by GLC for parathion-methyl
(PM) fenvalerate (FEN) and Guthion (GUT) (pollen only). The aqueous
sample portion was further purified and taken into MeOH (for HPLC
analysis of CAR) or **acetone** (for GLC analysis of GUT in
bees). 50.70 Samples contained PM (over 0.1 ppm) and 15 samples
contained CAR (over 0.1 ppm), whilst 5 contained both. None of the 8
suspect FEN samples contained FEN. Multiple LD residues were often
noted. Samples spiked with PM, FEN and GUT showed 86-106% recoveries for
GLC analysis.

TI Determination of Carbaryl in **Honeybees** and Pollen by
High-Performance Liquid Chromatography.

AB The HPLC determination of carbaryl (CAR) in **honeybee** and pollen
samples was reported. 200 Dead **bee** and pollen samples (where
available) were obtained from areas of reported **bee** kills and
areas surveyed for recent **pesticide** applications. Organic
solvent extracts of samples were examined by GLC for parathion-methyl
(PM) fenvalerate (FEN) and Guthion (GUT) (pollen only). The aqueous
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analysis of CAR) or **acetone** (for GLC analysis of GUT in
bees). 50.70 Samples contained PM (over 0.1 ppm) and 15 samples
contained CAR (over 0.1 ppm), whilst 5 contained both. None. . .

CT MELLIFERA *DM; **APIS** *DM; APIDAE *DM; HYMENOPTERA *DM;
BEE *DM; ANALYSIS *FT; SPIKED *FT; RECOVERY *FT; RESIDUE *FT;
QUANT. *FT; DET. *FT; POLLEN *FT; MULTIPLICATION *FT

[02] PARATHION-METHYL *DM; PARATHION-METHYL *OC; INSECTICIDES *FT;
ACARICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PARATHIM *RN; DM *FT;
OC *FT

[03] FENVALERATE *DM; FENVALERATE *OC; INSECTICIDES *FT; **ACARICIDES**
*FT; CONTACTS *FT; FENVALERA *RN; DM *FT; OC *FT

[04] AZINPHOS-METHYL *DM; AZINPHOS-METHYL *OC; GUTHION *DM; GUTHION *OC;
INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; AZINPHOSM *RN; DM *FT; OC *FT

[03] FENVALERATE *DM; FENVALERATE *OC; INSECTICIDES *FT; **ACARICIDES**
*FT; CONTACTS *FT; FENVALERA *RN; DM *FT; OC *FT

[04] AZINPHOS-METHYL *DM; AZINPHOS-METHYL *OC; GUTHION *DM; GUTHION *OC;
INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; AZINPHOSM *RN; DM *FT; OC *FT

[04] AZINPHOS-METHYL *DM; AZINPHOS-METHYL *OC; GUTHION *DM; GUTHION *OC;
INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT;

L7 ANSWER 54 OF 85 CABA COPYRIGHT 2004 CABI on STN
 AN 87:446 CABA
 DN 19870218853
 TI Repelling **honeybees** from insecticide-treated flowers with
2-heptanone
 AU Rieth, J. P.; Wilson, W. T.; Levin, M. D.
 CS Honey Bee Pesticides/Diseases Res., USDA-ARS, Laramie, WY 82071, USA.
 SO Journal of Apicultural Research, (1986) Vol. 25, No. 2, pp. 78-84. B.
 ISSN: 0021-8839
 DT Journal
 LA English
 ED Entered STN: 19941101
 Last Updated on STN: 19941101
 AB The **honeybee** (*Apis mellifera*) pheromone 2-
heptanone was evaluated for possible use as a repellent in
 conjunction with agricultural insecticides. An efficacious repellent would
 prevent or reduce **honeybee** mortality by lowering the incidence
 of contact between **bees** and toxic chemicals. It was shown that
 although 2-**heptanone** repels **bees**, its use as
 a repellent would probably not be practical in an agricultural setting,
 and that under some conditions it acted as an attractant. Author.
 TI Repelling **honeybees** from insecticide-treated flowers with
2-heptanone.
 AB The **honeybee** (*Apis mellifera*) pheromone 2-
heptanone was evaluated for possible use as a repellent in
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 of contact between **bees** and toxic chemicals. It was shown that
 although 2-**heptanone** repels **bees**, its use as
 a repellent would probably not be practical in an agricultural setting,
 and that under some conditions it. . .
 BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates;
 animals; **pesticides**
 CT Poisoning; HONEY **BEEES**; insecticides; repellents; 2-
Heptanone
 RN 110-43-0

L7 ANSWER 55 OF 85 CABA COPYRIGHT 2004 CABI on STN DUPLICATE 10
 AN 88:9881 CABA
 DN 19880225144
 TI Comparative toxicities of four topically applied insecticides to
 Africanized and European honey **bees** (Hymenoptera: Apidae)
 AU Danka, R. G.; Rinderer, T. E.; Hellmich, R. L., II; Collins, A. M.
 CS Honey Bee Breeding, Genetics & Physiology Res., ARS, USDA, 1157 Ben Hur
 Rd., Baton Rouge, LA 70820, USA.
 SO Journal of Economic Entomology, (1986) Vol. 79, No. 1, pp. 18-21. Bb. 35
 ref.
 ISSN: 0022-0493
 DT Journal
 LA English
 ED Entered STN: 19941101
 Last Updated on STN: 19941101
 AB Contact toxicities were established for **acetone** formulations of
 azinphos-methyl, methyl-parathion, and permethrin applied to Africanized
 and European worker **honeybees** in Sarara, Venezuela. For each
 insecticide, 95% fiducial limits at the LC50 levels for the two types of
bee did not overlap. Africanized **bees** showed greater
 tolerance to all the chemicals except carbaryl; differences in tolerance
 to each of the 4 chemicals were all about 2-fold. The order of toxicity of
 the compounds on the Africanized **bees** was permethrin > carbaryl

> azinphos-methyl > methyl-parathion; on the European **honeybees**, the order of toxicity was permethrin > azinphos-methyl > carbaryl > methyl-parathion. Significant differences between the types of **bee** were noted in the slopes of the probit regressions estimated for 3 of the compounds. The Africanized **bees** responded more homogeneously than the European **bees** to azinphos-methyl; European **bees** reacted more homogeneously than Africanized **bees** to carbaryl and permethrin. Author.<new para>ADDITIONAL ABSTRACT:<new para>Contact toxicities were established for **acetone** formulations of azinphos-methyl, carbaryl, methyl parathion [parathion-methyl] and permethrin applied to workers of Africanized and European types of **Apis mellifera**. For each insecticide, 95% fiducial limits at the LC50s for the 2 **bee** types did not overlap. Africanized **bees** showed greater tolerance to all compounds except carbaryl; the differences in tolerance to each of the 4 compounds were all about 2-fold. The order of toxicity of the insecticides on Africanized **bees** was permethrin > carbaryl > azinphos-methyl > parathion-methyl; on the European **bees** it was permethrin > azinphos-methyl > carbaryl > parathion-methyl. Significant differences in the **bee** types were noted in the slopes of the probit regressions estimated for 3 of the compounds. The Africanized **bees** responded more homogeneously than the European **bees** to azinphos-methyl, whereas the opposite was true for carbaryl and permethrin.

TI Comparative toxicities of four topically applied insecticides to Africanized and European honey **bees** (Hymenoptera: Apidae).

AB Contact toxicities were established for **acetone** formulations of azinphos-methyl, methyl-parathion, and permethrin applied to Africanized and European worker **honeybees** in Sarara, Venezuela. For each insecticide, 95% fiducial limits at the LC50 levels for the two types of **bee** did not overlap. Africanized **bees** showed greater tolerance to all the chemicals except carbaryl; differences in tolerance to each of the 4 chemicals were all about 2-fold. The order of toxicity of the compounds on the Africanized **bees** was permethrin > carbaryl > azinphos-methyl > methyl-parathion; on the European **honeybees**, the order of toxicity was permethrin > azinphos-methyl > carbaryl > methyl-parathion. Significant differences between the types of **bee** were noted in the slopes of the probit regressions estimated for 3 of the compounds. The Africanized **bees** responded more homogeneously than the European **bees** to azinphos-methyl; European **bees** reacted more homogeneously than Africanized **bees** to carbaryl and permethrin. Author.<new para>ADDITIONAL ABSTRACT:<new para>Contact toxicities were established for **acetone** formulations of azinphos-methyl, carbaryl, methyl parathion [parathion-methyl] and permethrin applied to workers of Africanized and European types of **Apis mellifera**. For each insecticide, 95% fiducial limits at the LC50s for the 2 **bee** types did not overlap. Africanized **bees** showed greater tolerance to all compounds except carbaryl; the differences in tolerance to each of the 4 compounds were all about 2-fold. The order of toxicity of the insecticides on Africanized **bees** was permethrin > carbaryl > azinphos-methyl > parathion-methyl; on the European **bees** it was permethrin > azinphos-methyl > carbaryl > parathion-methyl. Significant differences in the **bee** types were noted in the slopes of the probit regressions estimated for 3 of the compounds. The Africanized **bees** responded more homogeneously than the European **bees** to azinphos-methyl, whereas the opposite was true for carbaryl and permethrin.

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; organothiophosphate insecticides; organophosphorus insecticides; insecticides; **pesticides**; carbamate insecticides; carbamate **pesticides**; pyrethroid insecticides; South America; America
CT Poisoning; **HONEY BEES**; azinphos-methyl; carbaryl; parathion; permethrin; Toxicity; races; tropics; Nontarget effects; insecticides;

Parathion-methyl; **pesticides**; agricultural entomology
ORGN **Apis mellifera**

L7 ANSWER 56 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1986-82032 CROPU I Q S G
TI Relative Intrinsic Toxicity of Seven Insecticides to Foragers of the
Indian Hive **Bee, Apis cerana indica** F.
AU Lingappa S; Jagadish A; Shivaramu K; Prabhushwamy H P
LO Bangalore, India
SO Insect Sci.Its Appl. (6, No. 5, 567-68, 1985) 1 Tab. 12 Ref. (AL)
CODEN: ISIADL
AV Department of Entomology, University of Agricultural Sciences,
Bangalore-560 024, India.
DT Journal
LA English
FA AB; LA; CT
AB Intrinsic toxicity (topical) of Thiodan (endosulfan) 35% EC, Nexion
(bromophos) 35% EC, Sumicidin (fenvalerate) 20% EC, fenvalerate
(technical), Nexagon (bromophos-ethyl) 35% EC, malathion (technical),
malathion (pure), Ekalux (quinalphos) 25% EC and Decis (deltamethrin)
2.8% EC to Indian hive **bees (Apis cerana indica)** was
determined. Nexion was the least toxic (LD50 0.603 ug/**bee**) and
Decis the most toxic (LD50 0.021 ug/**bee**).
TI Relative Intrinsic Toxicity of Seven Insecticides to Foragers of the
Indian Hive **Bee, Apis cerana indica** F.
AB. . . Nexagon (bromophos-ethyl) 35% EC, malathion (technical), malathion
(pure), Ekalux (quinalphos) 25% EC and Decis (deltamethrin) 2.8% EC to
Indian hive **bees (Apis cerana indica)** was determined.
Nexion was the least toxic (LD50 0.603 ug/**bee**) and Decis the
most toxic (LD50 0.021 ug/**bee**).
ABEX Insecticides were applied to the abdominal sternum of each **bee**,
dissolved in **acetone**, and % mortality over 24 hrs was recorded.
LD50s determined (ug/**bee**) were: Thiodan (0.513), Nexion
(0.603), Sumicidin (0.140), technical fenvalerate (0.213), Nexagon
(0.098), technical malathion (0.084), pure malathion (0.072), Ekalux
(0.072). . .
CT **BEE** *SE; **APIS** *SE; CERONA *SE; INDICA *SE; APIDAE
*SE; HYMENOPTERA *SE; **ACETONE** *RC; TOPICAL *FT; LD50 *FT;
LAB.TEST *FT; APPL. TECHNIQUE *FT
[03] FENVALERATE *SE; SUMICIDIN *SE; EMULSION *FT; TECHNICAL *FT;
FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; FENVALERA *RN; SE *FT
[04] BROMOPHOS-ETHYL *SE; NEXAGAN *SE; INSECTICIDES *FT; **ACARICIDES**
*FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; BROMOPHET *RN; SE *FT
[05] MALATHION *SE; TECHNICAL *FT; INSECTICIDES *FT; **ACARICIDES**
*FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; SE
*FT
[06] QUINALPHOS *SE; EKALUX *SE; EMULSION *FT; FORMULATION *FT;
INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT;
STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
QUINALPHO *RN; SE *FT
[07] DELTAMETHRIN *SE; DECIS *SE; EMULSION *FT; . . .
[04] BROMOPHOS-ETHYL *SE; NEXAGAN *SE; INSECTICIDES *FT; **ACARICIDES**
*FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; BROMOPHET *RN; SE *FT
[05] MALATHION *SE; TECHNICAL *FT; INSECTICIDES *FT; **ACARICIDES**
*FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; SE
*FT
[06] QUINALPHOS *SE; EKALUX *SE; EMULSION *FT; FORMULATION *FT;
INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT;
STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;

QUINALPHO *RN; SE *FT
 [07] DELTAMETHRIN *SE; DECIS *SE; EMULSION *FT;. . .
 [05] MALATHION *SE; TECHNICAL *FT; INSECTICIDES *FT; **ACARICIDES**
 *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; SE
 *FT
 [06] QUINALPHOS *SE; EKALUX *SE; EMULSION *FT; FORMULATION *FT;
 INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT;
 STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 QUINALPHO *RN; SE *FT
 [07] DELTAMETHRIN *SE; DECIS *SE; EMULSION *FT;. . .
 [06] QUINALPHOS *SE; EKALUX *SE; EMULSION *FT; FORMULATION *FT;
 INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT;
 STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 QUINALPHO *RN; SE *FT
 [07] DELTAMETHRIN *SE; DECIS *SE; EMULSION *FT;. . .

L7 ANSWER 57 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 86:19109 CABA

DN 19860217805

TI Determination of residues of some insecticides in clover flowers: a
 bioassay method using **honeybee** adults

AU Mansour, S. A.; Al-Jalili, M. K.

CS Plant Protection Res. Div., Min. Agric., Abu-Ghraib, Baghdad, Iraq.

SO Journal of Apicultural Research, (1985) Vol. 24, No. 3, pp. 195-198. B.
 ISSN: 0021-8839

DT Journal

LA English

ED Entered STN: 19941101

Last Updated on STN: 19941101

AB Residues of 6 insecticides sprayed on clover (*Trifolium alexandrinum*) were
 determined biologically using adult **honeybees** as test insects.
 Flower samples were extracted with **acetone** and extracts were
 applied topically to **bees** without need to remove co-extractives
 (i.e. without clean-up). Mortalities were recorded 24 h after application
 and the results were used to establish dosage-mortality relationships for
 each insecticide. The LD50 values ([micro]g/**bee**) were 0.066,
 0.068, 0.112, 0.115, 0.212 and 0.310 for pirimiphos-methyl, methomyl,
 propoxur, chlorpyrifos, carbaryl and fenitrothion respectively. Recoveries
 of the tested insecticides from flower samples that had had known amounts
 of insecticides added to them ranged from 80 to 110%. Residues (expressed
 as ppm) in clover flowers 2, 4, 7 and 10 days after application are
 presented; methomyl was the most persistent compound, chlorpyrifos the
 least. Author.

TI Determination of residues of some insecticides in clover flowers: a
 bioassay method using **honeybee** adults.

AB Residues of 6 insecticides sprayed on clover (*Trifolium alexandrinum*) were
 determined biologically using adult **honeybees** as test insects.
 Flower samples were extracted with **acetone** and extracts were
 applied topically to **bees** without need to remove co-extractives
 (i.e. without clean-up). Mortalities were recorded 24 h after application
 and the results were used to establish dosage-mortality relationships for
 each insecticide. The LD50 values ([micro]g/**bee**) were 0.066,
 0.068, 0.112, 0.115, 0.212 and 0.310 for pirimiphos-methyl, methomyl,
 propoxur, chlorpyrifos, carbaryl and fenitrothion respectively. Recoveries
 of the. . .

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates;
 animals; **pesticides**; *Trifolium*; Fabaceae; Fabales; dicotyledons;
 angiosperms; Spermatophyta; plants

CT **HONEY BEES**; hive products; bioassays; insecticide residues;
 Toxicity; insecticides

L7 ANSWER 58 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1985-85223 CROPU A

TI Multi-Method for the Determination of **Pesticide** Residues in Perished Honey **Bees**. I. Chlorine and Phosphorus Insecticides. (Multimethode Zur Bestimmung Von Pflanzenschutzmittelrueckstaenden In Verendeten Honigbienen. I. Chlor- Und Phosphorinsecticide.)

AU Ebing W

LO Berlin, Ger.

SO Fresenius Z.Anal.Chem. (321, No. 1, 45-48, 1985) 1 Fig. 2 Tab. 9 Ref
CODEN: ZACFAU

AV Fachgruppe fuer Pflanzenschutzmittelforschung, Abteilung fuer Oekologische Chemie, Biologische Bundesanstalt fuer Land- und Forstwirtschaft, D-1000 Berlin 33, West Germany.

DT Journal

LA German

FA AB; LA; CT; MPC

AB A multiple residue analysis method was developed for chlorine- and phosphorus-containing insecticides in dead honey **bees** (**Apis mellifera**). Extracts underwent column chromatography prior to GLC. The method was tested for:- azinphos-ethyl, azinphos-methyl, bromophos, bromophos-ethyl, chlorfenvinphos, chlormephos, chlorpyriphos, chlorthiophos, demeton-S-methyl, diazinon, dichlorvos, dimethoate, dioxathion, alpha- and beta-endosulfan, etrimphos, fonofos, gamma-HCH (lindane), heptenophos, malathion, methidathion, methoxychlor, mevinphos, parathion, parathion-methyl, phosalone, phosmet, pirimiphos-methyl, tetrachlorvinphos.

TI Multi-Method for the Determination of **Pesticide** Residues in Perished Honey **Bees**. I. Chlorine and Phosphorus Insecticides. (Multimethode Zur Bestimmung Von Pflanzenschutzmittelrueckstaenden In Verendeten Honigbienen. I. Chlor- Und Phosphorinsecticide.)

AB A multiple residue analysis method was developed for chlorine- and phosphorus-containing insecticides in dead honey **bees** (**Apis mellifera**). Extracts underwent column chromatography prior to GLC. The method was tested for:- azinphos-ethyl, azinphos-methyl, bromophos, bromophos-ethyl, chlorfenvinphos, chlormephos, chlorpyriphos, .

ABEX Cut and mixed specimen samples were homogenized in **acetone**. Mixtures were filtered, concentrated and treated with dichloromethane. Extracts were purified on a column of Kieselgel, active charcoal. GLC Utilized. . .

CT **APIS** *OC; **MELLIFERA** *OC; **APIDAE** *OC; **HYMENOPTERA** *OC;
BEE *OC; **MULTIRESIDUE** *FT; **DET.** *FT; **EXTRACTION** *FT; **COLUMN** *FT; **CHROMATOGRAPHY** *FT; **GLC** *FT; **ANALYSIS** *FT; **CHROMATOGRAPHY** *FT

[01] **AZINPHOS-ETHYL** *OC; **INSECTICIDES** *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; **ORGANOPHOSPHORUS** *FT; **AZINPHOSE** *RN; **OC** *FT

[02] **AZINPHOS-METHYL** *OC; **INSECTICIDES** *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; **ORGANOPHOSPHORUS** *FT; **AZINPHOSM** *RN; **OC** *FT

[03] **BROMOPHOS** *OC; **INSECTICIDES** *FT; **CONTACTS** *FT; **STOMACH-POISONS** *FT;
ANTICHOLINESTERASES *FT; **ORGANOPHOSPHORUS** *FT; **BROMOPHOS** *RN; **OC** *FT

[04] **BROMOPHOS-ETHYL** *OC; **INSECTICIDES** *FT; **ACARICIDES** *FT;
CONTACTS *FT; **STOMACH-POISONS** *FT; **ANTICHOLINESTERASES** *FT;
ORGANOPHOSPHORUS *FT; **BROMOPHET** *RN; **OC** *FT

[05] **CHLORFENVINPHOS** *OC; **INSECTICIDES** *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; **ORGANOPHOSPHORUS** *FT; **CHLORFENV** *RN; **OC** *FT

[06] **CHLORMEPHOS** *OC; **INSECTICIDES** *FT; **CONTACTS** *FT; **ANTICHOLINESTERASES** *FT;
ORGANOPHOSPHORUS *FT; **CHLORMEPH** *RN; **OC** *FT

[07] **CHLORPYRIFOS** *OC; **INSECTICIDES** *FT; **ACARICIDES** *FT; **CONTACTS** *FT;
STOMACH-POISONS *FT; **ANTICHOLINESTERASES** *FT; **ORGANOPHOSPHORUS** *FT;
CHLORPYRI *RN; **OC** *FT

[08] **CHLORTHIOPHOS** *OC; **INSECTICIDES** *FT; **ACARICIDES** *FT;
CONTACTS *FT; **STOMACH-POISONS** *FT; **ANTICHOLINESTERASES** *FT;
ORGANOPHOSPHORUS *FT; **CLTHIOPHO** *RN; **OC** *FT

[09] **DEMETON-S-METHYL** *OC; **INSECTICIDES** *FT; **ACARICIDES** *FT;

SYSTEMICS *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; DEMETONSM *RN; OC *FT
 [10] DIAZINON *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIAZINON *RN; OC *FT
 [11] DICHLORVOS *OC; INSECTICIDES *FT; FUMIGANTS *FT; CONTACTS *FT;
 STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 DICHLORVO *RN; OC *FT
 [12] DIMETHOATE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 DIMETHOAT *RN; OC *FT
 [13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT
 [14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
 STOMACH-POISONS *FT;. . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT
 [19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 HEPTENOPH *RN; OC *FT
 [20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT
 [21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT
 [22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
 METHOXYCL *RN; OC *FT
 [23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 MEVINPHOS *RN; OC *FT
 [24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; PARATHION *RN; OC *FT
 [25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT
 [26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT
 [27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT
 [28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; PIRIMIPHM *RN; OC *FT
 [29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. . .
 .
 [02] AZINPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; AZINPHOSM *RN; OC *FT
 [03] BROMOPHOS *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; BROMOPHOS *RN; OC *FT
 [04] BROMOPHOS-ETHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; BROMOPHET *RN; OC *FT
 [05] CHLORFENVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; CHLORFENV *RN; OC *FT
 [06] CHLORMEPHOS *OC; INSECTICIDES *FT; CONTACTS *FT; ANTICHOLINESTERASES
 *FT; ORGANOPHOSPHORUS *FT; CHLORMEPH *RN; OC *FT
 [07] CHLORPYRIFOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; CHLORPYRI *RN; OC *FT
 [08] CHLORTHIOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; CLTHIOPHO *RN; OC *FT
 [09] DEMETON-S-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 SYSTEMICS *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; DEMETONSM *RN; OC *FT

[10] DIAZINON *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIAZINON *RN; OC *FT

[11] DICHLORVOS *OC; INSECTICIDES *FT; FUMIGANTS *FT; CONTACTS *FT;
STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DICHLORVO *RN; OC *FT

[12] DIMETHOATE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DIMETHOAT *RN; OC *FT

[13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT

[14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
STOMACH-POISONS *FT;. . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT

[19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
HEPTENOPH *RN; OC *FT

[20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT

[21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT

[22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
METHOXYCL *RN; OC *FT

[23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
MEVINPHOS *RN; OC *FT

[24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PARATHION *RN; OC *FT

[25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

[26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

[27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT

[28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. . .
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[04] BROMOPHOS-ETHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; BROMOPHET *RN; OC *FT

[05] CHLORFENVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; CHLORFENV *RN; OC *FT

[06] CHLORMEPHOS *OC; INSECTICIDES *FT; CONTACTS *FT; ANTICHOLINESTERASES
*FT; ORGANOPHOSPHORUS *FT; CHLORMEPH *RN; OC *FT

[07] CHLORPYRIFOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; CHLORPYRI *RN; OC *FT

[08] CHLORTHIOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; CLTHIOPHO *RN; OC *FT

[09] DEMETON-S-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
SYSTEMICS *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; DEMETONSM *RN; OC *FT

[10] DIAZINON *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIAZINON *RN; OC *FT

[11] DICHLORVOS *OC; INSECTICIDES *FT; FUMIGANTS *FT; CONTACTS *FT;
STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DICHLORVO *RN; OC *FT

[12] DIMETHOATE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS

*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 DIMETHOAT *RN; OC *FT

[13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT

[14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
 STOMACH-POISONS *FT;. . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT

[19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 HEPTENOPH *RN; OC *FT

[20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT

[21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT

[22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
 METHOXYCL *RN; OC *FT

[23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 MEVINPHOS *RN; OC *FT

[24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; PARATHION *RN; OC *FT

[25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

[26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

[27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT

[28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. . .
 .

[05] CHLORFENVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; CHLORFENV *RN; OC *FT

[06] CHLORMEPHOS *OC; INSECTICIDES *FT; CONTACTS *FT; ANTICHOLINESTERASES
 *FT; ORGANOPHOSPHORUS *FT; CHLORMEPH *RN; OC *FT

[07] CHLORPYRIFOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; CHLORPYRI *RN; OC *FT

[08] CHLORTHIOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; CLTHIOPHO *RN; OC *FT

[09] DEMETON-S-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 SYSTEMICS *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; DEMETONSM *RN; OC *FT

[10] DIAZINON *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIAZINON *RN; OC *FT

[11] DICHLORVOS *OC; INSECTICIDES *FT; FUMIGANTS *FT; CONTACTS *FT;
 STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 DICHLORVO *RN; OC *FT

[12] DIMETHOATE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 DIMETHOAT *RN; OC *FT

[13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT

[14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
 STOMACH-POISONS *FT;. . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT

[19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;

HEPTENOPH *RN; OC *FT

[20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT

[21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT

[22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
METHOXYCL *RN; OC *FT

[23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
MEVINPHOS *RN; OC *FT

[24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PARATHION *RN; OC *FT

[25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

[26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

[27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT

[28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT; .

[07] CHLORPYRIFOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; CHLORPYRI *RN; OC *FT

[08] CHLORTHIPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; CLTHIOPHO *RN; OC *FT

[09] DEMETON-S-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
SYSTEMICS *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; DEMETONSM *RN; OC *FT

[10] DIAZINON *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIAZINON *RN; OC *FT

[11] DICHLORVOS *OC; INSECTICIDES *FT; FUMIGANTS *FT; CONTACTS *FT;
STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DICHLORVO *RN; OC *FT

[12] DIMETHOATE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DIMETHOAT *RN; OC *FT

[13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT

[14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
STOMACH-POISONS *FT; . . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT

[19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
HEPTENOPH *RN; OC *FT

[20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT

[21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT

[22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
METHOXYCL *RN; OC *FT

[23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
MEVINPHOS *RN; OC *FT

[24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PARATHION *RN; OC *FT

- [25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT
- [26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT
- [27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT
- [28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PIRIMIPHM *RN; OC *FT
- [29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. . .
- [08] CHLORTHIOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; CLTHIOPHO *RN; OC *FT
- [09] DEMETON-S-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
SYSTEMICS *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; DEMETONSM *RN; OC *FT
- [10] DIAZINON *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIAZINON *RN; OC *FT
- [11] DICHLORVOS *OC; INSECTICIDES *FT; FUMIGANTS *FT; CONTACTS *FT;
STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DICHLORVO *RN; OC *FT
- [12] DIMETHOATE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DIMETHOAT *RN; OC *FT
- [13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT
- [14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
STOMACH-POISONS *FT;. . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT
- [19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
HEPTENOPH *RN; OC *FT
- [20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT
- [21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT
- [22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
METHOXYCL *RN; OC *FT
- [23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
MEVINPHOS *RN; OC *FT
- [24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PARATHION *RN; OC *FT
- [25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT
- [26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT
- [27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT
- [28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PIRIMIPHM *RN; OC *FT
- [29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. . .
- [09] DEMETON-S-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
SYSTEMICS *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; DEMETONSM *RN; OC *FT
- [10] DIAZINON *OC; INSECTICIDES *FT; **ACARICIDES** *FT;

ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIAZINON *RN; OC *FT

[11] DICHLORVOS *OC; INSECTICIDES *FT; FUMIGANTS *FT; CONTACTS *FT;
STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DICHLORVO *RN; OC *FT

[12] DIMETHOATE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DIMETHOAT *RN; OC *FT

[13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT

[14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
STOMACH-POISONS *FT;. . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT

[19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
HEPTENOPH *RN; OC *FT

[20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT

[21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT

[22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
METHOXYCL *RN; OC *FT

[23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
MEVINPHOS *RN; OC *FT

[24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PARATHION *RN; OC *FT

[25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

[26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

[27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT

[28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. . .
.

[10] DIAZINON *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIAZINON *RN; OC *FT

[11] DICHLORVOS *OC; INSECTICIDES *FT; FUMIGANTS *FT; CONTACTS *FT;
STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DICHLORVO *RN; OC *FT

[12] DIMETHOATE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DIMETHOAT *RN; OC *FT

[13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT

[14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
STOMACH-POISONS *FT;. . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT

[19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
HEPTENOPH *RN; OC *FT

[20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT

[21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT

[22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
METHOXYCL *RN; OC *FT

[23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS

- *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
MEVINPHOS *RN; OC *FT
- [24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PARATHION *RN; OC *FT
- [25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT
- [26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT
- [27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT
- [28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PIRIMIPHM *RN; OC *FT
- [29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT; . .
- [12] DIMETHOATE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
DIMETHOAT *RN; OC *FT
- [13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT
- [14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
STOMACH-POISONS *FT; . . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT
- [19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
HEPTENOPH *RN; OC *FT
- [20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT
- [21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT
- [22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
METHOXYCL *RN; OC *FT
- [23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
MEVINPHOS *RN; OC *FT
- [24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PARATHION *RN; OC *FT
- [25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT
- [26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT
- [27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT
- [28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
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*FT; PIRIMIPHM *RN; OC *FT
- [29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT; . .
- [13] DIOXATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIOXATHIO *RN; OC *FT
- [14] ENDOSULFAN-ALPHA *OC; ENDOSULAL *RN; INSECTICIDES *FT; CONTACTS *FT;
STOMACH-POISONS *FT; . . . *OC; INSECTICIDES *FT; RODENTICIDES *FT;
CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; OC *FT
- [19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
HEPTENOPH *RN; OC *FT
- [20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; MALATHION *RN; OC *FT

[21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT

[22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
METHOXYCL *RN; OC *FT

[23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
MEVINPHOS *RN; OC *FT

[24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PARATHION *RN; OC *FT

[25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

[26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

[27] PHOSMET *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT

[28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. .

[19] HEPTENOPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
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[22] METHOXYCHLOR *OC; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT;
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MEVINPHOS *RN; OC *FT

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ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

[26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

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ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT

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CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
*FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. .

[20] MALATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
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 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

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 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT

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 CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. .

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[21] METHIDATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHIDATH *RN; OC *FT

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 MEVINPHOS *RN; OC *FT

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 ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

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 CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. .

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[23] MEVINPHOS *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 MEVINPHOS *RN; OC *FT

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 ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

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 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

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 CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. .

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[24] PARATHION *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS
 *FT; PARATHION *RN; OC *FT

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 CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

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 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

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 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSMET *RN; OC *FT

[28] PIRIMIPHOS-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT;

CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PIRIMIPHM *RN; OC *FT

[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. .

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[25] PARATHION-METHYL *OC; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PARATHIM *RN; OC *FT

[26] PHOSALONE *OC; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; OC *FT

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[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. .

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[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. .

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[29] TETRACHLORVINPHOS *OC; INSECTICIDES *FT; ANTICHOLINESTERASES *FT;. .

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TI Toxicity of Fluvalinate to **Bees**.
(Toxicite du Fluvalinate sur les Abeilles.))

AU Barnavon M

CS Sandoz

LO Rueil-Malmaison, Fr.

SO Def.Veg. (39, No. 236, 8-15, 1985) 4 Fig. 9 Tab. 13 Ref. (U88/JAH)
CODEN: DEVEAA

AV Produits Sandoz, 14, boulevard Richelieu, B.P. 115, 92505
Rueil-Malmaison, France.

DT Journal

LA English

FA AB; LA; CT

AB The toxicity of the pyrethroid **pesticide** fluvalinate to domestic **bees** (*Apis mellifera*) was determined by dusting, topical application in **acetone** solution and by ingestion in 67% honey solution, and was found to be low. In field tests on wheat, alfalfa, mustard and Phacelia, the fluvalinate preparations Klartan and Mavrik could be safely used at normal (144 g/ha) rates of application without damage to the **bees**. Phosalone (Zolone, 33%) and fenvalerate, used as non-toxic standards, had no adverse effects on the **bees**, though parathion (Ekatox) lindane (gamma-HCH) and dimethoate caused rapid and severe kill in **bees**.

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ABEX Fluvalinate was used at 36 g/ha against cereal aphids, which are visited by **bees** collecting honeydew, but the **bees** were unaffected. Fenvalerate was a repellent to **bees**, but fluvalinate was not.

CT **BEE** *SE; TOX. *FT; LAB.TEST *FT

[01]. . . TOPICAL *FT; INGESTION *FT; LOW *FT; DOSAGE *FT; FIELD *FT; FR. *FT; FORMULATION *FT; APPL. TECHNIQUE *FT; AREA-EUROPE *FT; INSECTICIDES *FT; **ACARICIDES** *FT; FLUVALINA *RN; SE *FT; TR *FT

[02] PHOSALONE *TR; ZOLONE *TR; EMULSION *FT; ABSENCE *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; TR *FT

[03] FENVALERATE *TR; ABSENCE *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; FENVALERA *RN; TR *FT

[04] PARATHION *TR; EKATOX *TR; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PARATHION *RN; TR *FT

[05] GAMMA-HCH *TR; INSECTICIDES *FT; RODENTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; TR *FT

[06] DIMETHOATE *TR; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIMETHOAT *RN; TR *FT

[02] PHOSALONE *TR; ZOLONE *TR; EMULSION *FT; ABSENCE *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; TR *FT

[03] FENVALERATE *TR; ABSENCE *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; FENVALERA *RN; TR *FT

[04] PARATHION *TR; EKATOX *TR; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PARATHION *RN; TR *FT

[05] GAMMA-HCH *TR; INSECTICIDES *FT; RODENTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; TR *FT

[06] DIMETHOATE *TR; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIMETHOAT *RN; TR *FT

[03] FENVALERATE *TR; ABSENCE *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; FENVALERA *RN; TR *FT

[04] PARATHION *TR; EKATOX *TR; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PARATHION *RN; TR *FT

[05] GAMMA-HCH *TR; INSECTICIDES *FT; RODENTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; TR *FT

[06] DIMETHOATE *TR; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DIMETHOAT *RN; TR *FT

[04] PARATHION *TR; EKATOX *TR; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PARATHION *RN; TR *FT

[05] GAMMA-HCH *TR; INSECTICIDES *FT; RODENTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; FUMIGANTS *FT; GAMMAHCH *RN; TR *FT

[06] DIMETHOATE *TR; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 DIMETHOAT *RN; TR *FT

[06] DIMETHOATE *TR; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 DIMETHOAT *RN; TR *FT

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 AN 1985-80225 CROPU A I S
 TI Analysis of Insecticides Residues in Small Quantities of Nectar, Part II:
 Analysis of Propoxur and Phosalone; results of the Residue Analysis.
 (Nachweis Von Insektizid-Rueckstaenden In Kleinen Nektarmengen, Teil II:
 Nachweis Von Propoxur Und Phosalone; Ergebnisse Der Rueckstandsanalysen.)
 Institut fuer Landwirtschaftliche Zoologie und Bienenkunde der
 Universitaet Bonn, Gut Melb, Melbweg 42, 5300 Bonn 1, West German)
 AU Fiedler L; Drescher W
 LO Bonn, Ger.
 SO Chemosphere (13, No. 9, 1985-90, 1984) 2 Tab. 4 Ref
 CODEN: CMSHAF
 DT Journal
 LA German
 FA AB; LA; CT; MPC
 AB A GLC technique for the determination of propoxur and phosalone in nectar
 was described. The technique was applied to a residue analysis of nectar
 from apple, cherry and raspberry blossoms after treatment with Orthene
 (acephate), Perfekthion (dimethoate), propoxur (Unden fleussig) and
 Rubitox SP (phosalone) at commercially recommended concentrations.

ABEX. . . organic layer dried in a column packed with anhydrous Na2SO4. The
 solvent was removed and the extracted material dissolved in
acetone and analyzed by GLC (3% OV-17 on Chromosorb W-HP for the
 determination of propoxur, and 4% SE-30 on Varaport 30. . . respective
 metabolites, methamidophos and omethoate, by a previously reported
 technique. Residue levels were tabulated. A series of feeding tests on
 honey-bees will be carried out (no details).

[02] DIMETHOATE *OC; DIMETHOATE *DM; PERFEKTHION *OC; PERFEKTHION *DM;
 INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; SYSTEMICS
 *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; APPL.TIME *FT;
 PRE-BLOOM *FT; DIMETHOAT *RN; OC *FT; DM *FT

[03] . . . *FT; PRE-BLOOM *FT; PROPOXUR *RN; OC *FT; DM *FT

[04] PHOSALONE *OC; PHOSALONE *DM; RUBITOX *OC; RUBITOX *DM; INSECTICIDES
 *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; APPL.TIME *FT; PRE-BLOOM *FT; PHOSALONE *RN; OC
 *FT; DM *FT

[05] METHAMIDOPHOS *OC; METHAMIDOPHOS *DM; METABOLITE *FT; INSECTICIDES
 *FT; **ACARICIDES** *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHAMIDO *RN; OC *FT;
 DM *FT

[06] OMETHOATE *OC; OMETHOATE *DM; METABOLITE *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; OMETHOATE *RN; OC *FT; DM *FT

[04] PHOSALONE *OC; PHOSALONE *DM; RUBITOX *OC; RUBITOX *DM; INSECTICIDES
 *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; APPL.TIME *FT; PRE-BLOOM *FT; PHOSALONE *RN; OC
 *FT; DM *FT

[05] METHAMIDOPHOS *OC; METHAMIDOPHOS *DM; METABOLITE *FT; INSECTICIDES
 *FT; **ACARICIDES** *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHAMIDO *RN; OC *FT;
 DM *FT

[06] OMETHOATE *OC; OMETHOATE *DM; METABOLITE *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; OMETHOATE *RN; OC *FT; DM *FT

[05] METHAMIDOPHOS *OC; METHAMIDOPHOS *DM; METABOLITE *FT; INSECTICIDES

*FT; **ACARICIDES** *FT; SYSTEMICS *FT; CONTACTS *FT;
ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; METHAMIDO *RN; OC *FT;
DM *FT

- [06] OMETHOATE *OC; OMETHOATE *DM; METABOLITE *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; OMETHOATE *RN; OC *FT; DM *FT
[06] OMETHOATE *OC; OMETHOATE *DM; METABOLITE *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT;
ORGANOPHOSPHORUS *FT; OMETHOATE *RN; OC *FT; DM *FT

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AN 1985-84364 CROPU I
TI Laboratory Assessment of Insecticide Selectivity - Practical Relevance.
AU Stevenson J H; Smart L E; Walters J H H
LO Harpenden, U.K.
SO Proc.Br.Crop Prot.Conf.Pests Dis. (1, 355-58, 1984) 3 Tab. 10 Ref
CODEN: PBCDDQ
AV Rothamsted Experimental Station, Harpenden, Herts, AL5 2JQ, England.
DT Conference
LA English
FA AB; LA; CT
AB In laboratory tests, pyrethroids (bioallethrin, flucythrinate,
permethrin, deltamethrin, bioresmethrin, fenvalerate) were 8-100 x more
toxic to *Ephestia kuehniella* than to its **parasite** *Venturia*
canescens. Hazard estimates based on the ratio between laboratory
toxicity (LD50) and field treatment rate had a useful prediction value
for **honeybees** which has been confirmed by field observations.
When pirimicarb and phosalone were included the selectivity range was x
0.39 to x 97.0 indicating the importance of such data in insecticide
selection. Tests including demeton-S-methyl and triazophos were carried
out with **honeybees**, *Chrysopa carnea* and *Aphidius matricariae*.
C. carnea was tolerant to some pyrethroid but *A. matricariae* were at high
risk, except from pirimicarb.
AB. . . laboratory tests, pyrethroids (bioallethrin, flucythrinate,
permethrin, deltamethrin, bioresmethrin, fenvalerate) were 8-100 x more
toxic to *Ephestia kuehniella* than to its **parasite** *Venturia*
canescens. Hazard estimates based on the ratio between laboratory
toxicity (LD50) and field treatment rate had a useful prediction value
for **honeybees** which has been confirmed by field observations.
When pirimicarb and phosalone were included the selectivity range was x
0.39 to. . . x 97.0 indicating the importance of such data in
insecticide selection. Tests including demeton-S-methyl and triazophos
were carried out with **honeybees**, *Chrysopa carnea* and *Aphidius*
matricariae. *C. carnea* was tolerant to some pyrethroid but *A.*
matricariae were at high risk, except. . .
ABEX Toxicity of technical grade insecticides was made topically by
micro-applicator. Solvents and drop sizes were: for *E. kuhniella* adults
acetone 1 ul, *V. canescens* adults **acetone** 0.5 ul,
honeybee worker adults **acetone** 1.0 ul, *C. carnea* larvae
butanone 0.25 ul, *A. matricariae* adults **butanone** 0.05
ul, larvae in mummified aphids **butanone** 0.1 ul. 24 And 48 hr
mortality was estimated. Values were compared to typical field rates
recommended for aphid control,. . . lack of hazard. Field trials by
other workers have confirmed that permethrin, cypermethrin and
deltamethrin are not dangerous to foraging **honeybees** but
demeton-S-methyl and triazophos are hazardous.
CT . . . EPHESTIA *TR; PYRALIDAE *TR; LEPIDOPTERA *TR; KUEHNIELLA *TR;
VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE;
INSECTICIDE *FT; INSECTICIDES *FT; **ACARICIDES** *FT;
INSECT-REPELLENTS *FT; CONTACTS *FT; STOMACH-POISONS *FT; FLUCYTHRI
*RN; TR *FT; SE *FT
[03] BIORESMETHRIN *TR; BIORESMETHRIN *SE; EPHESTIA *TR;. . . EPHESTIA

- *TR; PYRALIDAE *TR; LEPIDOPTERA *TR; KUEHNIELLA *TR; VENTURIA *SE;
 DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE; INSECTICIDE *FT;
 INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; FENVALERA
 *RN; TR *FT; SE *FT
- [05] PERMETHRIN *TR; PERMETHRIN *SE; EPHESTIA *TR; PYRALIDAE *TR;
 LEPIDOPTERA *TR;. . . KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES
 *SE; ASCOMYCOTINA *SE; CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE;
 HYMENOPTERA *SE; PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE;
 MELLIFERA *SE; APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA
 *SE; CHRYSOPIDAE *SE; NEUROPTERA *SE; INSECTICIDE *FT; DOSAGE *FT;
 FIELD *FT; INSECTICIDES *FT; CONTACTS *FT; PERMETHRI. . .
 KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA *SE;
 CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE; PREDATOR
 *SE; MATRICARIAE *TR; **APIS** *SE; MELLIFERA *SE; APIDAE *SE;
BEE *SE; CHRYSOPA *SE; CHRYSOPIDAE *SE; CARNEA *SE; NEUROPTERA
 *SE; INSECTICIDE *FT; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
 CONTACTS *FT; STOMACH-POISONS. . . KUEHNIELLA *TR; VENTURIA *SE;
 DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE; APHIDIUS *SE;
 APHIDIIDAE *SE; HYMENOPTERA *SE; PREDATOR *SE; MATRICARIAE *SE;
APIS *SE; MELLIFERA *SE; APIDAE *SE; **BEE** *SE;
 CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE *SE; NEUROPTERA *SE; INSECTICIDE
 *FT; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; FUMIGANTS *FT;
 SYSTEMICS. . . KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES *SE;
 ASCOMYCOTINA *SE; CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE;
 HYMENOPTERA *SE; PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE;
 MELLIFERA *SE; APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA
 *SE; CHRYSOPIDAE *SE; NEUROPTERA *SE; INSECTICIDE *FT; INSECTICIDES
 *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; PHOSALONE *RN; TR *FT; SE *FT
- [09] CYPERMETHRIN *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; CYPERMETH *RN; SE *FT
- [10] DEMETON-S-METHYL *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DEMETONSM *RN; SE *FT
- [11] TRIAZOPHOS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; NEMATICIDES *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; TRIAZOPHO *RN; SE *FT
- [04]. . . EPHESTIA *TR; PYRALIDAE *TR; LEPIDOPTERA *TR; KUEHNIELLA *TR;
 VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE;
 INSECTICIDE *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; FENVALERA *RN; TR *FT; SE *FT
- [05] PERMETHRIN *TR; PERMETHRIN *SE; EPHESTIA *TR; PYRALIDAE *TR;
 LEPIDOPTERA *TR;. . . KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES
 *SE; ASCOMYCOTINA *SE; CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE;
 HYMENOPTERA *SE; PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE;
 MELLIFERA *SE; APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA
 *SE; CHRYSOPIDAE *SE; NEUROPTERA *SE; INSECTICIDE *FT; DOSAGE *FT;
 FIELD *FT; INSECTICIDES *FT; CONTACTS *FT; PERMETHRI. . .
 KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA *SE;
 CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE; PREDATOR
 *SE; MATRICARIAE *TR; **APIS** *SE; MELLIFERA *SE; APIDAE *SE;
BEE *SE; CHRYSOPA *SE; CHRYSOPIDAE *SE; CARNEA *SE; NEUROPTERA
 *SE; INSECTICIDE *FT; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;

CONTACTS *FT; STOMACH-POISONS. . . KUEHNIELLA *TR; VENTURIA *SE;
 DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE; APHIDIUS *SE;
 APHIDIIDAE *SE; HYMENOPTERA *SE; PREDATOR *SE; MATRICARIAE *SE;
APIS *SE; MELLIFERA *SE; APIDAE *SE; **BEE** *SE;
 CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE *SE; NEUROPTERA *SE; INSECTICIDE
 *FT; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; FUMIGANTS *FT;
 SYSTEMICS. . . KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES *SE;
 ASCOMYCOTINA *SE; CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE;
 HYMENOPTERA *SE; PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE;
 MELLIFERA *SE; APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA
 *SE; CHRYSOPIDAE *SE; NEUROPTERA *SE; INSECTICIDE *FT; INSECTICIDES
 *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; PHOSALONE *RN; TR *FT; SE *FT

[09] CYPERMETHRIN *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; CYPERMETH *RN; SE *FT

[10] DEMETON-S-METHYL *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DEMETONSM *RN; SE *FT

[11] TRIAZOPHOS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; NEMATICIDES *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; TRIAZOPHO *RN; SE *FT

[05] . . . KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA
 *SE; CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; INSECTICIDE *FT; DOSAGE *FT; FIELD *FT;
 INSECTICIDES *FT; CONTACTS *FT; PERMETHRI. . . KUEHNIELLA *TR;
 VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE;
 APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE; PREDATOR *SE;
 MATRICARIAE *TR; **APIS** *SE; MELLIFERA *SE; APIDAE *SE;
BEE *SE; CHRYSOPA *SE; CHRYSOPIDAE *SE; CARNEA *SE; NEUROPTERA
 *SE; INSECTICIDE *FT; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
 CONTACTS *FT; STOMACH-POISONS. . . KUEHNIELLA *TR; VENTURIA *SE;
 DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE; APHIDIUS *SE;
 APHIDIIDAE *SE; HYMENOPTERA *SE; PREDATOR *SE; MATRICARIAE *SE;
APIS *SE; MELLIFERA *SE; APIDAE *SE; **BEE** *SE;
 CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE *SE; NEUROPTERA *SE; INSECTICIDE
 *FT; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; FUMIGANTS *FT;
 SYSTEMICS. . . KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES *SE;
 ASCOMYCOTINA *SE; CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE;
 HYMENOPTERA *SE; PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE;
 MELLIFERA *SE; APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA
 *SE; CHRYSOPIDAE *SE; NEUROPTERA *SE; INSECTICIDE *FT; INSECTICIDES
 *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; PHOSALONE *RN; TR *FT; SE *FT

[09] CYPERMETHRIN *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; CYPERMETH *RN; SE *FT

[10] DEMETON-S-METHYL *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE

*SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DEMETONSM *RN; SE *FT

[11] TRIAZOPHOS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; NEMATOCIDES *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; TRIAZOPHO *RN; SE *FT

[06] . . . KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA
 *SE; CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *TR; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CHRYSOPIDAE *SE; CARNEA
 *SE; NEUROPTERA *SE; INSECTICIDE *FT; DOSAGE *FT; FIELD *FT;
 INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS. . . KUEHNIELLA
 *TR; VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE;
 APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE; PREDATOR *SE;
 MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE; APIDAE *SE;
BEE *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE *SE; NEUROPTERA
 *SE; INSECTICIDE *FT; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
 FUMIGANTS *FT; SYSTEMICS. . . KUEHNIELLA *TR; VENTURIA *SE;
 DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE; APHIDIUS *SE;
 APHIDIIDAE *SE; HYMENOPTERA *SE; PREDATOR *SE; MATRICARIAE *SE;
APIS *SE; MELLIFERA *SE; APIDAE *SE; **BEE** *SE;
 CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE *SE; NEUROPTERA *SE; INSECTICIDE
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES
 *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; TR *FT; SE *FT

[09] CYPERMETHRIN *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; CYPERMETH *RN; SE *FT

[10] DEMETON-S-METHYL *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DEMETONSM *RN; SE *FT

[11] TRIAZOPHOS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; NEMATOCIDES *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; TRIAZOPHO *RN; SE *FT

[07] . . . KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA
 *SE; CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; INSECTICIDE *FT; DOSAGE *FT; FIELD *FT;
 INSECTICIDES *FT; FUMIGANTS *FT; SYSTEMICS. . . KUEHNIELLA *TR;
 VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA *SE; CANESCENS *SE;
 APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE; PREDATOR *SE;
 MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE; APIDAE *SE;
BEE *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE *SE; NEUROPTERA
 *SE; INSECTICIDE *FT; INSECTICIDES *FT; **ACARICIDES** *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; PHOSALONE *RN; TR *FT;
 SE *FT

[09] CYPERMETHRIN *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; CYPERMETH *RN; SE *FT

- [10] DEMETON-S-METHYL *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DEMETONSM *RN; SE *FT
- [11] TRIAZOPHOS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; NEMATICIDES *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; TRIAZOPHO *RN; SE *FT
- [08] . . KUEHNIELLA *TR; VENTURIA *SE; DOTHIDEALES *SE; ASCOMYCOTINA
 *SE; CANESCENS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; INSECTICIDE *FT; INSECTICIDES *FT;
ACARICIDES *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
 PHOSALONE *RN; TR *FT; SE *FT
- [09] CYPERMETHRIN *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; CYPERMETH *RN; SE *FT
- [10] DEMETON-S-METHYL *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DEMETONSM *RN; SE *FT
- [11] TRIAZOPHOS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; NEMATICIDES *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; TRIAZOPHO *RN; SE *FT
- [09] CYPERMETHRIN *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT; CONTACTS
 *FT; STOMACH-POISONS *FT; CYPERMETH *RN; SE *FT
- [10] DEMETON-S-METHYL *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DEMETONSM *RN; SE *FT
- [11] TRIAZOPHOS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; NEMATICIDES *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; TRIAZOPHO *RN; SE *FT
- [10] DEMETON-S-METHYL *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE
 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; SYSTEMICS *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; DEMETONSM *RN; SE *FT
- [11] TRIAZOPHOS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
 APIDAE *SE; **BEE** *SE; CHRYSOPA *SE; CARNEA *SE; CHRYSOPIDAE

*SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; NEMATICIDES *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; TRIAZOPHO *RN; SE *FT
 [11] TRIAZOPHOS *SE; APHIDIUS *SE; APHIDIIDAE *SE; HYMENOPTERA *SE;
 PREDATOR *SE; MATRICARIAE *SE; **APIS** *SE; MELLIFERA *SE;
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 *SE; NEUROPTERA *SE; DOSAGE *FT; FIELD *FT; INSECTICIDES *FT;
ACARICIDES *FT; NEMATICIDES *FT; ANTICHOLINESTERASES *FT;
 ORGANOPHOSPHORUS *FT; TRIAZOPHO *RN; SE *FT

L7 ANSWER 62 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1985-84360 CROPU I
 TI PP321 - Effect on Honey **Bees**.
 AU Gough H J, Wilkinson W
 CS ICI
 LO Bracknell, U.K.
 SO Proc.Br.Crop Prot.Conf.Pests Dis. (1, 331-35, 1984) 2 Tab. 7 Ref
 CODEN: PBCDDQ

AV ICI Plant Protection Division, Jealott's Hill Research Station,
 Bracknell, Berkshire, RG12 6EY, England.

DT Conference

LA English

FA AB; LA; CT

AB The effect of Karate, PP-321 (cyhalothrin) on honey **bees** was
 examined in laboratory tests. LD50 tests showed that PP-321 is less
 active on honey **bees** orally than cypermethrin and permethrin
 and possibly less so by contact than cypermethrin. When 10 g/ha PP-321
 was applied at mid-day to flowering winter rape there was no lethal
 action or sublethal effect on foraging **honeybees** compared with
 Gusathion MS (azinthos-methyl, AM) 420 g/ha which reduced foraging.
 PP-321 is more active than cypermethrin and permethrin against
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 PP-321 is more active than cypermethrin and permethrin against
pests, but more selective to **honeybees**.

ABEX In topical LD50 tests, PP-321 was applied in 1 ul drops. Technical
 material was dissolved in **acetone** and formulated product was
 applied in water. The formulated material showed a similar toxicity level
 to the technical material. The. . . additional safety. In the field,
 6 trials were made in 25 ha fields at least 1 km from any other
bee forage source. 5 Healthy colonies of **bees** were
 moved into each field 2 days pre-spraying. In May, 1984, 2 consecutive
 tests were made using Gusathion MS and PP-321 5% EC and spraying by
 helicopter at 56 l/ha at midday when **bees** were actively
 foraging. AM was applied just after the PP-321 application on another
 field. Mortality and foraging activity were monitored.. . .

CT **APIS** *SE; APIDAE *SE; HYMENOPTERA *SE; **BEE** *SE;
 MELLIFERA *SE; DECREASE *FT

[01]. . . LD50 *FT; LAB.TEST *FT; FIELD *FT; U.K. *FT; FORAGING *FT;
 CONTACT *FT; P.O. *FT; AREA-EUROPE *FT; ACTION-MECHANISM *FT;
 INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; CYHALOTHR
 *RN; SE *FT; TR *FT

[02] PERMETHRIN *SE; LD50 *FT; LAB.TEST *FT; CONTACT *FT; P.O. *FT;. . .
 GUSATHION-M *TR; RAPE *TR; OLEAGINOUS *TR; COLE *TR; CROP *TR; FIELD
 *FT; U.K. *FT; FORAGING *FT; AREA-EUROPE *FT; INSECTICIDES *FT;

ACARICIDES *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
AZINPHOSM *RN; SE *FT; TR *FT
[04]. . . GUSATHION-M *TR; RAPE *TR; OLEAGINOUS *TR; COLE *TR; CROP *TR;
FIELD *FT; U.K. *FT; FORAGING *FT; AREA-EUROPE *FT; INSECTICIDES *FT;
ACARICIDES *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT;
AZINPHOSM *RN; SE *FT; TR *FT

L7 ANSWER 63 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 83:7521 CABA

DN 19830214043

TI Documenting honey **bee pesticide** loss

AU Bourke, J. B.; Morse, R. A.

SO American Bee Journal, (1982) Vol. 122, No. 11, pp. 780. B.

ISSN: 0002-7626

DT Journal

LA English

ED Entered STN: 19941101

Last Updated on STN: 19941101

AB Samples of dead **bees** being kept for analysis should be preserved
in **acetone** (200 in 50 ml) and not frozen.

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BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates;
animals

CT poisoning; HONEY **BEEES**; **pesticides**; diagnosis

L7 ANSWER 64 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 82:8177 CABA

DN 19820212920

TI A rapid, inexpensive, quantitative procedure for the extraction and
analyses of Pennicap-M (methyl parathion) from **honeybees** (
Apis mellifera L.), beeswax, and pollen

AU Ross, B.; Harvey, J.

CS Honey Bee Pesticides/Diseases Res., USDA, SEA, University Stn., Laramie,
WY 82071, USA.

SO Journal of Agricultural and Food Chemistry, (1981) Vol. 29, No. 5, pp.
1095-1096. B.

ISSN: 0021-8561

DT Journal

LA English

ED Entered STN: 19941101

Last Updated on STN: 19941101

AB The extraction procedure, which uses **acetone** + xylene (19:1), is
reported. The analysis used gas-liquid chromatography. Mean recoveries for
6 concentrations of Pennicap-M were 98.0, 97.8, and 94.2% from
honeybees, beeswax, and pollen, respectively. Mean recovery of
Pennicap-M from honey seeded at 5 concentrations was 87.3%. [Chem.Abstr. 95
: 109547w (1981).] F. B. Wells

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Pennicap-M from honey seeded at 5 concentrations was 87.3%. [Chem.Abstr. 95
: 109547w. . .

BT organothiophosphate insecticides; organophosphorus insecticides;
insecticides; **pesticides**

CT parathion; honey; **pesticides**

ST toxic chemicals; detection in **bees**

L7 ANSWER 65 OF 85 CABA COPYRIGHT 2004 CABI on STN
 AN 83:6780 CABA
 DN 19820213111
 TI Effects of Dimilin on the growth of **honeybee** larvae reared in an incubator
 Wirkung von Dimilin auf das Wachstum von Bienenlarven (**Apis mellifica**, Hym., Apidae) bei der Aufzucht im Brutschrank
 AU Czoppelt, C.; Rembold, H.
 CS Max-Planck Inst. fur Biochemie, 8033 Martinsried bei Munchen, German Federal Republic.
 SO Mitteilungen der Deutschen Gesellschaft fur Allgemeine und Angewandte Entomologie, (1981) Vol. 3, No. 1-3, pp. 191-195. B.
 ISSN: 0344-9084
 DT Journal
 LA German
 SL English
 ED Entered STN: 19941101
 Last Updated on STN: 19941101
 AB The insect growth regulator Dimilin (diflubenzuron) was tested for its growth-disrupting activity on **honeybee** larvae which were reared in an incubator. Third-instar larvae (3.0-5.0 mg body weight), fed on royal jelly and yeast extract (RJ), were either topically applied or fed with various amounts of Dimilin dissolved in **acetone** and in RJ, respectively. Topical application of 30 ng Dimilin and more caused delayed larval development and prepupal mortality. At doses of 50 and 100 ng, larval survival was less than 26% followed by a prepupal death rate of more than 35%. In the feeding test, addition of 0.6-1.2 μ g Dimilin/ml RJ resulted in decreasing larval survival and complete mortality in the pupal stage. Poor larval growth was observed only after treatment with high doses (1.0, 1.2 μ g/ml) as compared to the control test. The LD50 for **honeybee** larvae was 50 ng per treated larva in the application test and 120 ng per larva in the feeding test; this exceeds the highest dose received in field applications. Author
 TI [Effects of Dimilin on the growth of **honeybee** larvae reared in an incubator].
 Wirkung von Dimilin auf das Wachstum von Bienenlarven (**Apis mellifica**, Hym., Apidae) bei der Aufzucht im Brutschrank.
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 BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; chitin synthesis inhibitors; insect growth regulators; insecticides; **pesticides**
 CT poisoning; HONEY **BEES**; diflubenzuron; larvae; development; toxicity

 L7 ANSWER 66 OF 85 CABA COPYRIGHT 2004 CABI on STN
 AN 83:7678 CABA
 DN 19830214212
 TI Susceptibility of **honeybees** to insecticides
 AU Takeuchi, K.; Higo, M.; Sakai, I.
 CS Fac. Agric., Tamagawa Univ., Machida-shi, Tokyo 194, Japan.
 SO Bulletin of the Faculty of Agriculture, Tamagawa University, (1980) No. 20, pp. 40-46.

DT Journal
 LA Japanese
 ED Entered STN: 19941101
 Last Updated on STN: 19941101

AB Worker **honeybees** which had emerged within 24 h in an incubator were collected, marked and returned to a colony. After 6 days these **bees** were subjected to topical applications of **acetone** solutions of 5 insecticides; all were highly toxic. Sevin (carbaryl) and MTMC (m-tolyl methylcarbamate) showed more immediate effects than the other 3 (organophosphate) insecticides. Both carbamates, when contacted at lethal doses, caused the **bees** to disgorge honey or sting each other immediately after the application, and then to die within 1--2 h. LD50 values 24 h after application were (in μ g/**bee**): fenitrothion, 0.13; diazinon, 0.24; malathion, 0.29; carbaryl, 0.22; MTMC 0.52.

TI Susceptibility of **honeybees** to insecticides.

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BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; carbamate insecticides; insecticides; **pesticides**; carbamate **pesticides**; organothiophosphate insecticides; organophosphorus insecticides

CT poisoning; HONEY **BEES**; carbaryl; diazinon; malathion; fenitrothion; toxicity

L7 ANSWER 67 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 11
 AN 1979:49668 CAPLUS
 DN 90:49668

TI **Acaricide** preparations for diagnosis and control of ectoparasites of **bees**

IN Polyakov, A. A.; Yarnykh, V. S.; Smirnov, A. M.; Simetskii, M. A.; Kudryavtsev, E. A.; Talanov, G. A.; Zakomyrdin, A. A.; Rudenko, B. N.; Rakhmanin, P. P.; Gushin, V. N.

PA All-Union Scientific-Research Institute of Veterinary Sanitation, USSR
 SO Ger. Offen., 16 pp.
 CODEN: GWXXBX

DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2719722	A1	19781109	DE 1977-2719722	19770503
	DE 2719722	B2	19810423		
	DE 2719722	C3	19820422		
	US 4299816	A	19811110	US 1979-72554	19790904
PRAI	DE 1977-2719722		19770503		
	US 1977-804249		19770607		

AB N-methylcarbamates control **acariosis**, caused by **Acarapis** woodi, and varroatosis, caused by **Varroa jacobsoni**, in **honeybee**. Thus, application of a compn. contg. 0.025% by wt. Me N-methylcarbamate [6642-30-4], 19.975 **acetone**, and 80 Cl2F2C, to beehives, completely controlled **acariosis** and varroatosis (sic). The compds. were also useful for diagnosis, since their

application to infested **bees** led to the appearance of dead V. jacobsoni on the bottom of the hive.

TI **Acaricide** preparations for diagnosis and control of ectoparasites of **bees**

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ST **honeybee** carbamate **Varroa Acarapis**;
acaricide carbamate **honeybee**

IT **Honeybee**
(**acariosis** and varroatosis control in, by methylcarbamates)

IT **Acarapis woodi**
Varroa jacobsoni
(control of, on **honeybee**, by methylcarbamate)

IT **Acaricides**
(methylcarbamates, for **acariosis** and varroatosis control, in **honeybee**)

IT 63-25-2 6642-30-4 69004-48-4
RL: BIOL (Biological study)
(**acariosis** and varroatosis control by, in **honeybee**)

L7 ANSWER 68 OF 85 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1979-32854B [17] WPIDS

TI **Acaricidal** compsn. for use against **bee parasites** - contg. methyl-carbamic acid di cresyl ester, **acetone** and Freon-12 for high activity and low toxicity.

DC C03

IN POLYAKOV, A A; SMIRNOV, A M; YARNYKH, V S

PA (VETE-R) VETERINARY SANIT

CYC 1

PI SU 592032 A 19780908 (197917)*

PRAI SU 1974-2047784 19740722

AB SU 592032 A UPAB: 19930901
Acaricidal compsn. useful against **bee** varroatosis contains as active agent w-methyl-carbamic acid dicresyl ester (I). It is used in a form of aerosol. The activity of the compsn. against Varoa jacobsoni **parasites** in **bees** is increased without killing the **bees** if the compsn. contains **acetone** (I) as solvent and freon-12 (RTM) (III) as propellant. The compsn. comprises (in %): (I) 0.01-0.03; (II) 19.99-29.97 and (III) 70-80. The compsn. is stable for 12 months if stored at 5-20 degrees C after prepn.

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AB SU 592032 UPAB: 19930901
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TT TT: **ACARID** COMPOSITION **BEE PARASITIC** CONTAIN
METHYL CARBAMIC ACID DI CRESYL ESTER **ACETONE** FREON HIGH
ACTIVE LOW TOXIC.

L7 ANSWER 69 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 77:7085 CABA
 DN 19770206453
 TI Diagnosis in **honeybees** of poisoning by plant protection preparations containing carbamates
 Diagnostyka zatruc pszczol preparatami ochrony roslin z grupy karbaminianow
 AU Sokolowski, M.; Jurkiewicz, G.
 CS Zakladu Higieny Weterynaryjnej, Warszawa, Poland.
 SO Medycyna Weterynaryjna, (1977) Vol. 33, No. 4, pp. 220-221. B.
 ISSN: 0025-8628
 DT Journal
 LA Polish
 SL English; Russian
 ED Entered STN: 19941101
 Last Updated on STN: 19941101
 AB **Honeybees** were poisoned with either Gammakarbatox, containing lindane and carbaryl, or Karbatox Extra P, containing chlorfenvinphos and carbaryl. The latter decreased cholinesterase activity in the **bees** by 95.75%. After extraction, the individual insecticides were identified chromatographically. Carbaryl was separated on silica gel thin layers with a mixture of chloroform (9 parts) and **acetone** (1 part) as solvent, and revealed with a palladium choride reagent (Rf 0.62-0.64). Lindane was identified by gas chromatography and chlorfenvinphos by TLC. [Chem.Abstr. 87 : 63532s (1977).] F. B. Wells
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 BT carbamate insecticides; insecticides; **pesticides**; carbamate **pesticides**; animals; Hymenoptera; insects; arthropods; invertebrates; **Apis**; Apidae
 CT **pesticides**; diagnosis; chromatography; carbaryl; determination; techniques; pollinators; pollination; agricultural entomology; poisoning
 ORGN Apidae; **Apis** mellifera
 L7 ANSWER 70 OF 85 CABA COPYRIGHT 2004 CABI on STN
 AN 74:5169 CABA
 DN 19730200408
 TI Effects of certain internal and external factors on the resistance of **honeybees** to insecticides
 Der Einfluss verschiedener Konstitutions- und Umweltfaktoren auf die Anfälligkeit der Honigbiene (**Apis** mellifica L.) gegenuber zwei Insektiziden Pflanzenschutzmitteln
 AU Iadas, A.
 CS Inst. Landwirtschaftliche Zoologie und Bienenkunde, Univ. Bonn, German Federal Republic.
 SO Apidologie, (1972) Vol. 3, No. 1, pp. 55-78. EB.
 ISSN: 0044-8435
 DT Journal
 LA German
 SL English; French
 ED Entered STN: 19941101
 Last Updated on STN: 19941101
 AB Diditan Ultra (80% DDT) was tested as a contact poison; it was dissolved

in **acetone** and sprayed uniformly on to circular cellophane discs which formed the top and bottom of test "cages". It was more toxic to young Carniolan **bees** than to older ones: at 35 deg C, LD50 for **bees** 5-9 days old was 216.5×10^{-6} g, distributed over a surface 75 cm²; for **bees** 22-26 days old, the value was 250.2. At 22 deg C values were lower. Carniolan and Italian **bees** were more susceptible to poisoning than Caucasian **bees**, perhaps because the latter are 10-20% heavier. Two inbred lines (Carniolan, F=0.25) were tested: LD50 for F1 generation **bees** was the same as for **bees** of the paternal colony, but higher than for **bees** of the maternal colony. Mortality was higher when tests were made in darkness. Nosema-infected **bees** gave LD50 33.4, healthy **bees** 45.7. Oral poisoning by Dipterex SP80 (80% phosphoric acid ester) was affected by the pH value of the solution; also LD50 values decreased with increasing temperature. Results were affected by a time lapse between preparation of the solution and feeding: the unstable active compound is converted to Dichlorvos which is more toxic. Feeding of 1.5×10^{-6} g/bee caused 100% mortality if imbibed 2 h after preparation, but only 15-30% if fed during the first 20 min. P. Walker.

TI [Effects of certain internal and external factors on the resistance of **honeybees** to insecticides].

Der Einfluss verschiedener Konstitutions- und Umweltfaktoren auf die Anfälligkeit der Honigbiene (*Apis mellifica* L.) gegenüber zwei Insektiziden Pflanzenschutzmitteln.

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BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals

CT **pesticides**; **bee** diseases; complications; techniques; zoology; poisoning; **honey bees**

L7 ANSWER 71 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 73:44062 CABA

DN 19730502842

TI Laboratory studies on the contact toxicity of some insecticides to **honeybees**

AU Harris, C. R.; Svec, H. J.

CS Research Institute, Canada Department of Agriculture, London, Ontario.

SO Proceedings of the Entomological Society of Ontario, (1969) Vol. 100, pp. 165-167. 2 ref.

ISSN: 0071-0768

DT Journal

LA English

ED Entered STN: 19941101

Last Updated on STN: 19941101

AB Tests were carried out on the contact toxicity to honey **bees** of some of the organophosphorus and carbamate insecticides being developed or recommended in place of organochlorine compounds. The insecticides were dissolved in a mixture of **acetone** and olive oil and applied to anaesthetised **bees** in a Potter spray tower. When 0.01% solutions of the toxicant were used, compounds showing higher toxicity than dieldrin were methomyl, mevinphos, Dursban, carbofuran, parathion, Dupont 1642 (methyl N-(carbamoyloxy)thioacetimidate), naled, azinphos-methyl, dimethoate, fensulfothion (Dasanit), carbaryl and phoxim (BAY 77488).

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BT **pesticides**; cyclodiene insecticides; organochlorine insecticides; insecticides; organochlorine **pesticides**; oxime carbamate insecticides; carbamate insecticides; carbamate **pesticides**; organophosphate insecticides; organophosphorus insecticides; organothiophosphate insecticides; **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals

CT insecticides; toxicity; dieldrin; methomyl; mevinphos; carbofuran; parathion; naled; azinphos-methyl; dimethoate; carbaryl; fensulfothion; phoxim; honey **bees**; **pest** control; control; **pesticides**; agricultural entomology; poisoning

ST **bees**, honey; Dursban; S-methyl N-(carbamoyloxy)thioacetimidate; toxicity of substance

L7 ANSWER 72 OF 85 CABA COPYRIGHT 2004 CABI on STN

AN 75:6077 CABA

DN 19740201714

TI Contact toxicity of some new insecticides and **acaricides** to **honeybees**

AU Ibrahim, S. H.; Madkour, A. M.; Selim, H. A.

CS Apiculture Res. Section, Min. Agric., Giza, Dokki, United Arab Republic.

SO Agricultural Research Review, United Arab Republic, (1967) Vol. 45, No. 2, pp. 141-146. B.

DT Journal

LA English

ED Entered STN: 19941101
Last Updated on STN: 19941101

AB The contact effect of carbaryl (Sevin), fenthion (Lebaycid), toxaphene, bromophos (Nexion), phosphamidon (Dimecron) and dicofol (Kelthane) was studied in the laboratory on **honeybees** confined for 6 h in wire screen cages (60-96/cage). Each cage had one glass side which had been sprayed once with an **acetone** solution of a **pesticide** at the normal application rate, or at a higher or lower rate. Mortality was recorded every 2 h. Fenthion was the most toxic, causing 100% mortality after 4 h exposure to a 0.033% concentration. The highest rates used of phosphamidon (0.05%) and carbaryl (0.235%) were the next most toxic, causing 100% mortality after 4 or 6 h. A phosphamidon + carbaryl mixture was more toxic than separate applications. The highest concentrations of toxaphene, bromophos and dicofol used (0.396, 9.471, 0.235% respectively) caused 0, 13.7 and 4.4% mortality after 6 h exposure. D.G. Lowe

TI Contact toxicity of some new insecticides and **acaricides** to **honeybees**.

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BT **pesticides**; Hymenoptera; insects; arthropods; invertebrates; animals

CT sprays; insecticides; **acaricides**; cages; containers; poisoning

L7 ANSWER 73 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1966:442069 CAPLUS

DN 65:42069

OREF 65:7895e-g

TI Determination of organophosphorus insecticide residues using Cooke's emission spectroscopic detector

AU Bache, Carl A.; Lisk, Donald J.

CS Cornell Univ., Ithaca, NY

SO Residue Reviews (1966), 12, 35-44

CODEN: RREVAH; ISSN: 0080-181X

DT Journal

LA English

AB Improvements and addnl. reports of detns. are presented for a gas chromatograph with Cooke's Ar emission spectrometric detector as described by Bache and Lisk (CA 64, 1288a). The app. is shown in a diagram and a photograph. The 0.5 .times. 59 cm. glass column of the gas chromatograph contained a silicone grease on 80-100 mesh Chromosorb W. A flow regulator delivered Ar at 20-115 cc./min. The exit gas passed through the discharge of a Raytheon PGM-10 85-w. generator at 2540 .+- . 25 Me. delivered through a thickwalled capillary tube. The radiation incited was focused on the slit of an 0.5-m. Jarell-Ashe Ebert scanning spectrometer with a 30,000 lines/in. grating. Radiation of 2535.65 A. from the spectrometer fell on a 1P28 photomultiplier tube actuated by 680 v. whose output, amplified by a Philbrick UPA-2 amplifier, was automatically recorded. Occasional adjustment of the spectrometer by reference to the Hg line at 2536.52 A. is recommended. **Pesticides** were identified by their resp. retention times. After injection of the 5-.mu.l. sample, 2 min. was allowed for the escape of the solvent (Et2O, **acetone**, CHCl3, or hexane were tried) before the discharge was ignited by a Tesla coil. A table gives the sensitivities (1.4-9.2 .times. 10-12 g.) for 18 **pesticide** organophosphorus chemicals and the percentage of the full power of the generator recommended for each. Another table gives the recoveries (72-115%) of 6 of these toxicants added to 11 agricultural and food materials. The detns. were notably free of interference from substances extd. from samples and not removed from the sample soln. injected.

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IT Halibut.

Honeybees and(or) **Apis**
(parathion detn. in)

L7 ANSWER 74 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1963:476886 CAPLUS

DN 59:76886

OREF 59:14332h,14333a-b

TI Column chromatography of insect esterases

AU Afsharpour, F.; O'Brien, R. D.

CS Cornell Univ., Ithaca, NY

SO Journal of Insect Physiology (1963), 9(4), 521-9

CODEN: JIPHAF; ISSN: 0022-1910

DT Journal

LA Unavailable

AB Homogenates (10%) in 0.005M tris(hydroxymethyl)aminomethane buffer (I) at pH 7.0 of American cockroach (*Periplaneta americana*), Colorado potato beetle (*Leptinotarsa decemlineata*), honey **bee** (*A. pis mellifera*), housefly (*Musca domestica*) Wilson strain, Mexican bean beetle (*Epilachna varivestis*), milkweed bug (*Oncopeltus fasciatus*), and two-spotted **mite** (*Tetranychus telarius*) were centrifuged and the supernatant filtered and adjusted to pH 7.0. Ten ml. of enzyme were applied to 1.7 X 10 cm. columns of diethylaminoethyl cellulose which were then eluted with 1.75 ml., 0.005M I; 2.75 ml. 0.02M I; 3.60 ml. 0.33M I, and 4.60 ml. 0.33M I. Fifty fractions, each 5.6 ml., were collected. The fractions were assayed against indophenyl acetate [N-(4-acetoxyphenyl)p-quinoueiimine] (II) (3.3 .times. 10-3M in EtOH), 5-bromoindoxyl acetate (III) (7.5 .times. 10-3M in **acetone**), and 1-naphthyl acetate (IV) (1.7 .times. 10-2M in **acetone**). Greatest activity against IV was shown by the two-spotted **mite** whilst the Colorado beetle and **bee** showed moderate activity. In all cases activity was highest in fractions 30-40. Of the other insects only the milkweed bug showed any great activity, mainly in fractions 1-10. Very little activity was shown by any species against II and only slight activity against III.

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IT **Honeybees** and(or) **Apis**
Houseflies

Insects
 (esterases in, chromatography of)

IT Tetranychus
 (telarius (includes two-spotted spider **mite**), esterases in,
 chromatography of)

L7 ANSWER 75 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1964:495994 CAPLUS
 DN 61:95994
 OREF 61:16717f-g

TI Action of organic-phosphorus insecticides in binary mixtures on insects
 and **mites**

AU Roslavitseva, S. A.
 SO Aspirantsk. Raboty, Nauchn.-Issled. Inst. po Udobr. i Insektofungitsidam,
 Moscow (1963) 51-65
 From: Ref. Zh., Khim. 1964, Abstr. No. 7N326.

DT Journal
 LA Unavailable

AB The augmented toxicity of mixts. of org.-P compds. was confirmed. Mixts.
 tested were: chlorophos (I) with methylmercaptophos (II) (for rice weevil,
 housefly, aphids, and red spider **mite**); I with thiophos (for
 rice weevil, **bees**, aphids; somewhat less effective for housefly,
 and red spider **mites**); I with **acetone** (for rice weevil
 and housefly); and I with acetophos (IV) (for housefly). Mixts. of I and
 II (for sage **mite**), I and **acetone**, and I and III (for
 lackey moth (Malacosoma neustria) larvae) had an additive action. A mixt.
 of I and II (for **honeybee**) had an antagonistic action. The rate
 of penetration of a mixt. was no faster than that of its components.
 Mixts. of I with thiophos, I with **acetone**, and I with III were
 most effective.

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 Mixts. of I with thiophos, I with **acetone**, and I with III were
 most effective.

L7 ANSWER 76 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1958:117695 CAPLUS
 DN 52:117695
 OREF 52:20857c-d

TI Two new selective insecticides

AU Lhoste, J.
 CS Museum Natl. Histoire Nat., Paris
 SO Proc. Papers Tech. Meeting, Intern. Union Protect. Nature, Copenhagen
 (1956), Volume Date 1954 169-70

DT Journal
 LA French

AB The firm, J. R. Geigy A.-G. of Basel has developed two new selective
 insecticides which kill the insect intended without affecting the insect's
 natural predators. Isolan (I) (1-isopropyl-3-methyl-5-pyrazolyl
 dimethylcarbamate) is a liquid aphicide that is very toxic to warm-blooded
 animals. Chlorobenzilate is an **acaricide** harmless to animals.
 In vapor form it is harmless to **bees**. I is a red-brown liquid,

miscible in water, alc., and **acetone**. II is a yellow, viscous liquid, immiscible in water, miscible in alc., **acetone**, xylene, and kerosine.

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L7 ANSWER 77 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1955:6053 CAPLUS

DN 49:6053

OREF 49:1270e-g

TI Capability of resistance of the internal **mite** of **honeybees** and its possible control

AU Kaeser, W.

CS Tierhyg. Inst., Freiburg i. Br., Germany

SO Zeitschrift fuer Bienenforschung (1952), 1, 191-216

CODEN: ZBIEAU; ISSN: 0044-2399

DT Journal

LA Unavailable

AB cf. following abstr. **Honeybees** infested with the **mite** *Acarapis woodi* were fed various concns. of NaCl, MgCl₂, Na₂HPO₄, CuSO₄, Na₂S₂O₃, colloidal S, mustard oil (I), thymol (satd. aq. soln.) (II), terpeneol (III), urea, glycocoll, cysteine-HCl, tyrosine, acetylcholine, or one of 27 com. prepns. The **bees** were also exposed to the vapors of safrole, PhNO₂, gasoline, wintergreen oil, I, II, III, cryst. thymol, KCN (satd. aq. soln.), CH₂:CHCN, Me₂CO, or one of 5 com. prepns. In no case could the **mites** be killed without also killing the **bees**; I and III were particularly active against both **bees** and **mites**. Vapors of the Belgian com. prepn. "P.K." and of the German com. prepn. "Delacan" (compns. not given) rapidly killed the **mites** without appreciably affecting the **bees**.

TI Capability of resistance of the internal **mite** of **honeybees** and its possible control

AB cf. following abstr. **Honeybees** infested with the **mite** *Acarapis woodi* were fed various concns. of NaCl, MgCl₂, Na₂HPO₄, CuSO₄, Na₂S₂O₃, colloidal S, mustard oil (I), thymol (satd. aq. soln.) (II), terpeneol (III), urea, glycocoll, cysteine-HCl, tyrosine, acetylcholine, or one of 27 com. prepns. The **bees** were also exposed to the vapors of safrole, PhNO₂, gasoline, wintergreen oil, I, II, III, cryst. thymol, KCN (satd. aq. soln.), CH₂:CHCN, Me₂CO, or one of 5 com. prepns. In no case could the **mites** be killed without also killing the **bees**; I and III were particularly active against both **bees** and **mites**. Vapors of the Belgian com. prepn. "P.K." and of the German com. prepn. "Delacan" (compns. not given) rapidly killed the **mites** without appreciably affecting the **bees**.

IT **Acarapis woodi** and(or) **Acarine** disease **mite**
(control of)

IT Insecticides
(for **acarine** disease of **bees**)

IT Gasoline
PK
(in **Acarapis woodi** control on **bees**)

IT Oils
Oils
(mustard, in **Acarapis woodi** control on **bees**)

IT Oils

(wintergreen, in **Acarapis woodi** control on **bees**)
 IT Delacan
 (in **Acarapis woodi** control in **bees**)
 IT Cysteine, hydrochloride
 (in **Acarapis woodi** control on **bees**)
 IT 107-13-1, Acrylonitrile
 (as fumigant, in **Acarapis woodi** control on **bees**)
 IT 7704-34-9, Sulfur
 (colloidal, in **Acarapis woodi** control on **bees**)
 IT 51-84-3, Choline, acetyl- 56-40-6, Glycine 57-13-6, Urea 60-18-4,
 Tyrosine 67-64-1, Acetone 89-83-8, Thymol 94-59-7,
 Safrole 98-95-3, Benzene, nitro- 7558-79-4, Sodium phosphate, Na₂HPO₄
 7647-14-5, Sodium chloride 7758-98-7, Copper sulfate 7772-98-7, Sodium
 thiosulfate 7786-30-3, Magnesium chloride 8000-41-7, Terpeneol
 (in **Acarapis woodi** control on **bees**)
 IT 151-50-8, Potassium cyanide
 (in **Acarapis woodi** control on **bees**)

L7 ANSWER 78 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1951:30842 CAPLUS

DN 45:30842

OREF 45:5354f-i,5355a-f

TI Properties of acetylcholine esterases from the **bee**, the fly, and
 the mouse and their relation to insecticide action

AU Metcalf, Robert L.; March, Ralph B.

CS Univ. of California Citrus Expt. Sta., Riverside

SO Journal of Economic Entomology (1950), 43, 670-7

CODEN: JEENAI; ISSN: 0022-0493

DT Journal

LA Unavailable

AB Previous work (C.A. 44, 3663f) suggested that specific differences exist
 in the protein structures of the cholinesterase (I) from the central
 nervous systems of flies and **bees**; and that such differences may
 be involved in the toxicity of certain insecticides to these insects.
 Similar differences were not recorded by Augustinsson (C.A. 42, 5063g) in
 a study of several organisms. The desirability of developing insecticides
 nontoxic to the **parasites** and predators of injurious insects yet
 of low mammalian toxicity led M. and M. to undertake the present study.
 Compd. I was assayed by the Warburg manometric technique (cf. Metcalf and
 March (C.A. 44, 3663f). Pulps of worker **bee** (**Apis**
mellifera) heads, of housefly (*Musca domestica*) heads, and of white mouse
 brain were homogenized in a buffer (0.15 M NaCl, 0.04 M MgCl₂, 0.025 M
 NaHCO₃). The anticholinesterase (II) activity of a no. of org. phosphate
 compds. and carbamate compds. was detd.; the former were added in
acetone soln., the latter in aq. soln. to the exptl. flasks. The
 flasks were flushed with 95% N₂ and 5% CO₂ and incubated 10 min., then
 acetylcholine or other substrate was added and the flasks were shaken 5
 min. The amt. of CO₂ produced in 30 min. (longer with some II) was detd.
 by comparison with a standard. The values obtained were plotted as
 probits of percentage inhibition against log mol. concn.; 50% inhibition
 points were detd. from the plots by inspection. The LD₅₀ values for the
 fly and **bee** were obtained by topical application of II in
acetone soln.; for the male mouse by oral administration of II in
 propylene glycol soln. or from the literature. The comparative I activity
 (acetylcholine hydrolyzed per mg. brain per hr.) follows: female
bee 2.5; female fly 11; male mouse 0.356. I activity of
bee brain always increased on overnight storage; this was not true
 of fly brain. The relative II activity of the org. phosphates (in vitro
 mol. concn. for 50% I inhibition) for fly, **bee**, and mouse brain,
 resp., and the resp. toxicity (LD₅₀ in mg./kg.) follow: diethyl
 p-nitrophenyl phosphate, activity 2.6 .times. 10⁻⁸, 1.9 .times. 10⁻⁸, 1
 .times. 10⁻⁷, toxicity 0.5, 0.6, 3; diethyl p-nitrophenyl thiophosphate

(parathion), 4.5 .times. 10⁻⁷, 1 .times. 10⁻⁶, 2.5 .times. 10⁻⁶, 0.9, 3.5, 6; diisopropyl p-nitrophenyl thiophosphate 2 .times. 10⁻⁵, 1.4 .times. 10⁻², > 1 .times. 10⁻², 4.2, > 1000, > 100; dipropyl p-nitrophenyl thiophosphate 5 .times. 10⁻⁶, 1.6 .times. 10⁻⁵, 3 .times. 10⁻⁵, 4, 30, > 100; ethyl p-nitrophenyl thiobenzenephosphonate 3 .times. 10⁻⁷, 8.2 .times. 10⁻⁷, 1.5 .times. 10⁻⁵, 1.9, 3, 50-100; tetraisopropyl pyrophosphate 1 .times. 10⁻⁷, 1.5 .times. 10⁻⁵, 2 .times. 10⁻⁵, 6.5, 23, 50-100; tetraisopropyl dithiopyrophosphate 3 .times. 10⁻⁶, 3 .times. 10⁻⁴, 1.5 .times. 10⁻³, 30, 1000 > 200; tetrapropyl dithiopyrophosphate 5 .times. 10⁻⁷, 3 .times. 10⁻⁶, 5 .times. 10⁻⁵, 15, 200, > 200; diisopropyl fluorophosphonate 1.3 .times. 10⁻⁸, 2 .times. 10⁻⁷, 8 .times. 10⁻⁸, 15, 30, 37. The following carbamate-type inhibitors gave these results (in mol. concn. for 50% inhibition of fly, **bee**, and mouse brain I, resp.): physostigmine sulfate 2 .times. 10⁻⁸, 8 .times. 10⁻⁸, 3 .times. 10⁻⁷; dimethylcarbamate of (2-hydroxy-5-phenylbenzyl)trimethylammonium chloride 3 .times. 10⁻⁸, 3 .times. 10⁻⁶, 1.5 .times. 10⁻⁷; N-p-chlorophenyl-N-methylcarbamate of m-hydroxyphenyltrimethylammonium bromide 2.4 .times. 10⁻⁵, 4 .times. 10⁻⁶, 4 .times. 10⁻⁹. The study revealed distinct biochem. differences in the sp. I in brain tissues of the fly, **bee**, and mouse which are reflected in the II activity of org. phosphates (contg. isopropoxy group or aromatic rings, or both or thiophosphoryl groups) in the II activity of certain carbamic acid esters, and in the kinetics of I behavior toward substrates such as .beta.-methylcholine. The relative differences in II activity of the org. phosphate compds. det. largely the toxicities of these compds. to the organisms studied. The extremely high content of I in the fly brain is noteworthy. A detailed knowledge of the properties of the various I compds. and a correlation of the structure of various org. phosphate II compds. may lead to the development of insecticides with large margins of safety for warm-blooded animals, and for beneficial **parasites** and predators of insect **pests**. 22 references.

TI Properties of acetylcholine esterases from the **bee**, the fly, and the mouse and their relation to insecticide action

AB Previous work (C.A. 44, 3663f) suggested that specific differences exist in the protein structures of the cholinesterase (I) from the central nervous systems of flies and **bees**; and that such differences may be involved in the toxicity of certain insecticides to these insects. Similar differences were not recorded by Augustinsson (C.A. 42, 5063g) in a study of several organisms. The desirability of developing insecticides nontoxic to the **parasites** and predators of injurious insects yet of low mammalian toxicity led M. and M. to undertake the present study. Compd. I was assayed by the Warburg manometric technique (cf. Metcalf and March (C.A. 44, 3663f). Pulp of worker **bee** (*Apis mellifera*) heads, of housefly (*Musca domestica*) heads, and of white mouse brain were homogenized in a buffer (0.15 M NaCl, 0.04 M MgCl₂, 0.025 M NaHCO₃). The anticholinesterase (II) activity of a no. of org. phosphate compds. and carbamate compds. was detd.; the former were added in **acetone** soln., the latter in aq. soln. to the exptl. flasks. The flasks were flushed with 95% N₂ and 5% CO₂ and incubated 10 min., then acetylcholine or other substrate was added and the flasks were shaken 5 min. The amt. of CO₂ produced in 30 min. (longer with some II) was detd. by comparison with a standard. The values obtained were plotted as probits of percentage inhibition against log mol. concn.; 50% inhibition points were detd. from the plots by inspection. The LD₅₀ values for the fly and **bee** were obtained by topical application of II in **acetone** soln.; for the male mouse by oral administration of II in propylene glycol soln. or from the literature. The comparative I activity (acetylcholine hydrolyzed per mg. brain per hr.) follows: female **bee** 2.5; female fly 11; male mouse 0.356. I activity of **bee** brain always increased on overnight storage; this was not true of fly brain. The relative II activity of the org. phosphates (in vitro mol. concn. for 50% I inhibition) for fly, **bee**, and mouse brain,

resp., and the resp. toxicity (LD50 in mg./kg.) follow: diethyl p-nitrophenyl phosphate, activity 2.6 .times. 10-8, 1.9 .times. 10-8, 1 .times. 10-7, toxicity 0.5, 0.6, 3; diethyl p-nitrophenyl thiophosphate (parathion), 4.5 .times. 10-7, 1 .times. 10-6, 2.5 .times. 10-6, 0.9, 3.5, 6; diisopropyl p-nitrophenyl thiophosphate 2 .times. 10-5, 1.4 .times. 10-2, > 1 .times. 10-2, 4.2, > 1000, > 100; dipropyl p-nitrophenyl thiophosphate 5 .times. 10-6, 1.6 .times. 10-5, 3 .times. 10-5, 4, 30, > 100; ethyl p-nitrophenyl thiobenzenephosphonate 3 .times. 10-7, 8.2 .times. 10-7, 1.5 .times. 10-5, 1.9, 3, 50-100; tetraisopropyl pyrophosphate 1 .times. 10-7, 1.5 .times. 10-5, 2 .times. 10-5, 6.5, 23, 50-100; tetraisopropyl dithiopyrophosphate 3 .times. 10-6, 3 .times. 10-4, 1.5 .times. 10-3, 30, 1000 > 200; tetrapropyl dithiopyrophosphate 5 .times. 10-7, 3 .times. 10-6, 5 .times. 10-5, 15, 200, > 200; diisopropyl fluorophosphonate 1.3 .times. 10-8, 2 .times. 10-7, 8 .times. 10-8, 15, 30, 37. The following carbamate-type inhibitors gave these results (in mol. concn. for 50% inhibition of fly, **bee**, and mouse brain I, resp.): physostigmine sulfate 2 .times. 10-8, 8 .times. 10-8, 3 .times. 10-7; dimethylcarbamate of (2-hydroxy-5-phenylbenzyl)trimethylammonium chloride 3 .times. 10-8, 3 .times. 10-6, 1.5 .times. 10-7; N-p-chlorophenyl-N-methylcarbamate of m-hydroxyphenyltrimethylammonium bromide 2.4 .times. 10-5, 4 .times. 10-6, 4 .times. 10-9. The study revealed distinct biochem. differences in the sp. I in brain tissues of the fly, **bee**, and mouse which are reflected in the II activity of org. phosphates (contg. isopropoxy group or aromatic rings, or both or thiophosphoryl groups) in the II activity of certain carbamic acid esters, and in the kinetics of I behavior toward substrates such as .beta.-methylcholine. The relative differences in II activity of the org. phosphate compds. det. largely the toxicities of these compds. to the organisms studied. The extremely high content of I in the fly brain is noteworthy. A detailed knowledge of the properties of the various I compds. and a correlation of the structure of various org. phosphate II compds. may lead to the development of insecticides with large margins of safety for warm-blooded animals, and for beneficial **parasites** and predators of insect **pests**. 22 references.

IT **Bees**
Mice

(cholinesterases of, insecticide action and)

IT 9001-08-5, Cholinesterase
(of **bee**, fly and mouse, insecticide action and)

L7 ANSWER 79 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1932:58900 CAPLUS
DN 26:58900
OREF 26:6055h-i

TI A comparison between rotenone and pyrethrins as contact insecticides

AU Ginsburg, Joseph M.; Schmitt, J. B.

SO Journal of Economic Entomology (1932), 25, 918-22
CODEN: JEENAI; ISSN: 0022-0493

DT Journal

LA Unavailable

AB **Acetone** exts. of derris root, pyrethrum flowers and an **acetone** soln. of rotenone were dild. with water and applied as contact sprays to aphids and **honeybees**. Derris ext. and rotenone are much more toxic to aphids than to **honeybees**; pyrethrum ext. is more toxic to **honeybees** than to aphids. Conclusion: Because an insecticide is toxic to one group of insects one cannot assume that other insects will react the same way toward it.

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Conclusion: Because an insecticide is toxic to one group of insects one cannot assume that other insects will react the same way toward it.

IT Pyrethrins

(in red-spider **mite** control)

IT 54-11-5, Nicotine 83-79-4, Rotenone

(in red-spider **mite** control)

L7 ANSWER 80 OF 85 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1925:20523 CAPLUS

DN 19:20523

OREF 19:2685d-g

TI Contributions to the knowledge of bacterial enzymes (catalase and peroxidase)

AU Stapp, C.

SO Centr. Bakt. Parasitenk., I Abt. Orig. (1924), 92, 161-93

DT Journal

LA Unavailable

AB Catalase was detected in 10-year-old dry cultures of *Streptococcus apis*, *B. coli*, *B. fluorescens* and *Vibrio Dunbar*, but not in the organism of the crab **pest**. The method of drying influenced the stability of the catalase. When the culture was extd. with CHCl_3 and **acetone** and dried the catalase was destroyed, but not when it was dried over H_2SO_4 , even when kept at room temp. Such salts as KNO_3 , K_2SO_4 and KClO_3 did not all exert the same influence on catalase production. KNO_3 increased it. Bubbling such gases as H, N or O for 1 or 2 hrs. prior to the addn. of H_2O_2 had no influence on the activity of the catalase. Heating cultures of non-spore formers to 80.degree. for 15 min. inactivated the catalase, but spore formers withstood a temp. of 100.degree.. Anaerobes produced less catalase than aerobes. For *B. prodigiosus*, *Staphylococcus albus* and *Staph. aureus*, the min. H-ion concn. for catalase activity was 9.1, the optimum between 8.0 and 6.5, and the max. 3.1. Treatment with strong HCl followed by neutralization with NaOH or vice versa effected different species differently. CHCl_3 and **acetone** slowly weakened the catalase. 0.008% I inactivated catalase in 1 hr.; CS_2 checked its activity, but to different degrees with different bacteria. Peroxidase was formed by all bacteria except streptococci. In contradistinction to catalase it is indifferent to neutral salts, acids, alkalies, I, CS_2 , C_6H_6 , toluene, xylene, alc., and narcotics.

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L7 ANSWER 81 OF 85 CABA COPYRIGHT 2004 CABI on STN
AN 80:7557 CABA
DN 19790209312
TI Chemical for controlling **honeybee parasites**
CS USSR, All-Union Scientific Research Institute of Veterinary Sanitation
PI 19780000
SO Japanese Kokai (unexamined patent application), No. 53-139722, pp. 7. B.
DT Patent
LA Japanese
ED Entered STN: 19941101
Last Updated on STN: 19941101
AB **Honeybee** diseases caused by **Acarapis woodi** and **Varroa jacobsoni** are controlled with N-methylcarbamates. Thus, 0.02% 1-naphthyl N-methylcarbamate in **acetone** controlled infestations of these **mites** in **honeybees**. [Chem.Abstr. 90 : 116454p (1979).] F. B. Wells
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BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; **Acari**; Arachnida
CT **honey bees**; control; natural enemies
ST **mite**; carbamates and derivatives
ORGN **mites**

L7 ANSWER 82 OF 85 CABA COPYRIGHT 2004 CABI on STN
AN 80:7345 CABA
DN 19790209033
TI **Acaricide** preparations for the diagnosis and control of ectoparasites of **honeybees**
Akarizides Preparat zur Diagnostik und Bekämpfung von Ektoparasiten der Bienen
AU Poljakov, A. A.; and 9 others; Polyakov, A. A.
CS Vsesoyuznoi Nauchno-issledovatel'skii Inst. Veterinarnoi Sanitarii, Moscow, USSR.
PI 19780000
SO German Federal Republic Offenlegungsschrift, No. 2719722, pp. 16. B.
DT Patent
LA German
ED Entered STN: 19941101
Last Updated on STN: 19941101
AB N-methylcarbamates control infestation of **honeybees** by **Acarapis woodi** and by **Varroa jacobsoni**. Thus, application to hives of a composition containing 0.025% by weight methyl-N-methylcarbamate, 19.975% **acetone**, and 80% difluorodichloromethane, completely controlled these **mites**. The compounds are also useful for diagnosis, since their application to infested **bees** led to the appearance of dead V. jacobsoni on the bottom of the hive. [Chem. Abstr. 90 : 49668w (1979).] F. B. Wells
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infested **bees** led to the appearance of dead *V. jacobsoni* on the bottom of the hive. [Chem. Abstr. 90 : 49668w (1979).]. . .

BT **Apis**; Apidae; Hymenoptera; insects; arthropods; invertebrates; animals; **pesticides**; **Acari**; Arachnida; **Varroa**; Varroidae; Mesostigmata; **Acarapis**; Acarapidae; Prostigmata

CT honey **bees**; control; **acaricides**; natural enemies

ST **mite**; carbamates and derivatives

ORGN **mites**; **Varroa jacobsoni**; **Acarapis woodi**

L7 ANSWER 83 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1994-85504 CROPU I G

TI The dynamics of the toxicity of contact insecticides to the honey **bee**.

AU Illarionov A I

CS Univ.Voronezh-State

LO Voronezh, Russia

SO Agrokhimiya (1994, No. 5, 99-107) 1 Fig. 2 Tab. 8 Ref.
CODEN: AGKYAU

AV K. D. Glinka Voronezh State Agrarian University, Voronezh, Russia.

DT Journal

LA Russian

FA AB; LA; CT

AB Contact and topical toxicity of the following insecticides to honey **bees** was compared: Decis (deltamethrin) 2.5% EC, Cymbush (cypermethrin) 20% EC, Karate (lambda cyhalothrin) 5% EC, Talstar (bifenthrin) 10% EC, Mavrik (fluvalinate) 2E, Sumi-alpha (esfenvalerate) 5% EC, Trebon (etofenprox) 30% EC, Fastak (alpha-cypermethrin) 10% EC, Sumicidin (fenvalerate) 20% EC, Cyanox (cyanophos), Hostaquick (heptenophos) 50% EC, Actellic (pirimiphos-methyl) 50% EC, Basudin (diazinon) 60% EC, chlorofos (trichlorfon), Zolone (phosalone) 35% EC and Gardona (tetrachlorvinphos) 50% SP. Mortality reached a minimum at 48 hr, indicating that at least this period should be used for toxicity testing. Sensitivity was generally greater when insecticides were applied to thoracic tergites than when **bees** contacted treated surfaces; Mavrik 2E and Zolone were exceptions.

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ABEX Insecticides (in 1 ul **acetone**) were applied to the thoracic tergites of worker **bees** (aged 20-25 days), or **bees** were placed in contact with treated surfaces (cellophane discs) bearing insecticides. Some agents induced toxic effects within 3 hr, i.e.. . .

CT APIDAE *SE; **APIS** *SE; **BEE** *SE; HYMENOPTERA *SE;
CONTACT *FT; TOPICAL *FT; NON-TARGET *FT; DOSAGE *FT; LAB.TEST *FT;
EXPOSURE *FT; TIME *FT; ACTION-MECHANISM *FT; APPL. TECHNIQUE. . .

[03] LAMBDA-CYHALOTHRIN *SE; KARATE *SE; LCYHALOTH *RN; EMULSION *FT;
FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SE *FT

[04] BIPHENATE *SE; TALSTAR *SE; BIPHENATE *RN; EMULSION *FT; FORMULATION
*FT; INSECTICIDES *FT; **ACARICIDES** *FT; SE *FT

[05] FLUVALINATE *SE; MAVRIK *SE; FLUVALINA *RN; EMULSION *FT; FORMULATION
*FT; INSECTICIDES *FT; **ACARICIDES** *FT; SE *FT

[06] ESFENVALERATE *SE; SUMI-ALPHA *SE; ESFENVALE *RN; EMULSION *FT;
FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
*FT; SE *FT

[07] ETOFENPROX *SE; TREBON *SE; ETHOFENPR *RN; EMULSION *FT; INSECTICIDES

*FT; FORMULATION *FT; SE *FT. . . *FT; STOMACH-POISONS *FT;
 FORMULATION *FT; SE *FT

[09] FENVALERATE *SE; SUMICIDIN *SE; FENVALERA *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SE *FT

[10] CYANOPHOS *SE; CYANOX *SE; CYANOPHOS *RN; INSECTICIDES *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[11] HEPTENOPHOS *SE; HOSTAQUICK *SE; HEPTENOPH *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[12] PIRIMIPHOS-METHYL *SE; ACTELIC *SE; PIRIMIPHM *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[13] DIAZINON *SE; BASUDIN *SE; DIAZINON *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES
 *FT; ORGANOPHOSPHORUS *FT; SE *FT

[14] TRICHLORFON *SE; TRICLFON *RN; INSECTICIDES *FT; CONTACTS *FT;
 STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[15] PHOSALONE *SE; ZOLONE *SE; PHOSALONE *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[16] TETRACHLORVINPHOS *SE; GARDONA *SE; TETRACVIN *RN; SUSPENSION *FT;
 FORMULATION *FT;. . .

[04] BIPHENATE *SE; TALSTAR *SE; BIPHENATE *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; SE *FT

[05] FLUVALINATE *SE; MAVRIK *SE; FLUVALINA *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; SE *FT

[06] ESFENVALERATE *SE; SUMI-ALPHA *SE; ESFENVALE *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SE *FT

[07] ETOFENPROX *SE; TREBON *SE; ETHOFENPR *RN; EMULSION *FT; INSECTICIDES
 *FT; FORMULATION *FT; SE *FT. . . *FT; STOMACH-POISONS *FT;
 FORMULATION *FT; SE *FT

[09] FENVALERATE *SE; SUMICIDIN *SE; FENVALERA *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SE *FT

[10] CYANOPHOS *SE; CYANOX *SE; CYANOPHOS *RN; INSECTICIDES *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[11] HEPTENOPHOS *SE; HOSTAQUICK *SE; HEPTENOPH *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[12] PIRIMIPHOS-METHYL *SE; ACTELIC *SE; PIRIMIPHM *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[13] DIAZINON *SE; BASUDIN *SE; DIAZINON *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES
 *FT; ORGANOPHOSPHORUS *FT; SE *FT

[14] TRICHLORFON *SE; TRICLFON *RN; INSECTICIDES *FT; CONTACTS *FT;
 STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[15] PHOSALONE *SE; ZOLONE *SE; PHOSALONE *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[16] TETRACHLORVINPHOS *SE; GARDONA *SE; TETRACVIN *RN; SUSPENSION *FT;
 FORMULATION *FT;. . .

[05] FLUVALINATE *SE; MAVRIK *SE; FLUVALINA *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; SE *FT

[06] ESFENVALERATE *SE; SUMI-ALPHA *SE; ESFENVALE *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SE *FT

[07] ETOFENPROX *SE; TREBON *SE; ETHOFENPR *RN; EMULSION *FT; INSECTICIDES
 *FT; FORMULATION *FT; SE *FT. . . *FT; STOMACH-POISONS *FT;
 FORMULATION *FT; SE *FT

[09] FENVALERATE *SE; SUMICIDIN *SE; FENVALERA *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SE *FT

[10] CYANOPHOS *SE; CYANOX *SE; CYANOPHOS *RN; INSECTICIDES *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[11] HEPTENOPHOS *SE; HOSTAQUICK *SE; HEPTENOPH *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[12] PIRIMIPHOS-METHYL *SE; ACTELIC *SE; PIRIMIPHM *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[13] DIAZINON *SE; BASUDIN *SE; DIAZINON *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES
 *FT; ORGANOPHOSPHORUS *FT; SE *FT

[14] TRICHLORFON *SE; TRICLFON *RN; INSECTICIDES *FT; CONTACTS *FT;
 STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[15] PHOSALONE *SE; ZOLONE *SE; PHOSALONE *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[16] TETRACHLORVINPHOS *SE; GARDONA *SE; TETRACVIN *RN; SUSPENSION *FT;
 FORMULATION *FT;. . .

[06] ESFENVALERATE *SE; SUMI-ALPHA *SE; ESFENVALE *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SE *FT

[07] ETOFENPROX *SE; TREBON *SE; ETHOFENPR *RN; EMULSION *FT; INSECTICIDES
 *FT; FORMULATION *FT; SE *FT. . . *FT; STOMACH-POISONS *FT;
 FORMULATION *FT; SE *FT

[09] FENVALERATE *SE; SUMICIDIN *SE; FENVALERA *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SE *FT

[10] CYANOPHOS *SE; CYANOX *SE; CYANOPHOS *RN; INSECTICIDES *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[11] HEPTENOPHOS *SE; HOSTAQUICK *SE; HEPTENOPH *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[12] PIRIMIPHOS-METHYL *SE; ACTELIC *SE; PIRIMIPHM *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS
 *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[13] DIAZINON *SE; BASUDIN *SE; DIAZINON *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES
 *FT; ORGANOPHOSPHORUS *FT; SE *FT

[14] TRICHLORFON *SE; TRICLFON *RN; INSECTICIDES *FT; CONTACTS *FT;
 STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE
 *FT

[15] PHOSALONE *SE; ZOLONE *SE; PHOSALONE *RN; EMULSION *FT; FORMULATION
 *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT;
 ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[16] TETRACHLORVINPHOS *SE; GARDONA *SE; TETRACVIN *RN; SUSPENSION *FT;
 FORMULATION *FT;. . .

[09] FENVALERATE *SE; SUMICIDIN *SE; FENVALERA *RN; EMULSION *FT;
 FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS

*FT; SE *FT

[10] CYANOPHOS *SE; CYANOX *SE; CYANOPHOS *RN; INSECTICIDES *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[11] HEPTENOPHOS *SE; HOSTAQUICK *SE; HEPTENOPH *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

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[13] DIAZINON *SE; BASUDIN *SE; DIAZINON *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[14] TRICHLORFON *SE; TRICLFON *RN; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[15] PHOSALONE *SE; ZOLONE *SE; PHOSALONE *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[16] TETRACHLORVINPHOS *SE; GARDONA *SE; TETRACVIN *RN; SUSPENSION *FT; FORMULATION *FT;. . .

[11] HEPTENOPHOS *SE; HOSTAQUICK *SE; HEPTENOPH *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; SYSTEMICS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[12] PIRIMIPHOS-METHYL *SE; ACTELIC *SE; PIRIMIPHM *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[13] DIAZINON *SE; BASUDIN *SE; DIAZINON *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[14] TRICHLORFON *SE; TRICLFON *RN; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[15] PHOSALONE *SE; ZOLONE *SE; PHOSALONE *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

[16] TETRACHLORVINPHOS *SE; GARDONA *SE; TETRACVIN *RN; SUSPENSION *FT; FORMULATION *FT;. . .

[12] PIRIMIPHOS-METHYL *SE; ACTELIC *SE; PIRIMIPHM *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; FUMIGANTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

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[16] TETRACHLORVINPHOS *SE; GARDONA *SE; TETRACVIN *RN; SUSPENSION *FT; FORMULATION *FT;. . .

[13] DIAZINON *SE; BASUDIN *SE; DIAZINON *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT

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- [15] PHOSALONE *SE; ZOLONE *SE; PHOSALONE *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT
- [16] TETRACHLORVINPHOS *SE; GARDONA *SE; TETRACVIN *RN; SUSPENSION *FT; FORMULATION *FT;. . .
- [15] PHOSALONE *SE; ZOLONE *SE; PHOSALONE *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; CONTACTS *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT
- [16] TETRACHLORVINPHOS *SE; GARDONA *SE; TETRACVIN *RN; SUSPENSION *FT; FORMULATION *FT;. . .

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AN 1993-86009 CROPU I S G

TI The Kinetics of Insecticide Toxicity in the Honey Bee.

AU Illarinov A I

LO Voronezh, Russia

SO Agrokhimiya (1993, No. 5, 90-95) 5 Fig. 22 Ref.

CODEN: AGKYAU

AV Voronezh State Agrarian University, Voronezh, Russia.

DT Journal

LA Russian

FA AB; LA; CT

AB Worker **bees** were treated with topical phosalone (6, 8 or 14 ug), Basudin (diazinon) (0.35, 0.4, 0.45 or 0.5 ug), Mavrik 2E (fluvalinate) (5, 8 or 12 ug) or cypermethrin (0.01, 0.02, 0.04 or 0.08 ug). Phosalone penetrated the cuticle more slowly than Basudin, which in turn penetrated more slowly than Mavrik 2E or cypermethrin. Insecticide concentrations in internal tissues represented a balance between absorption and degradation. All insecticides produced dose-dependent mortality, with onset of death coinciding with peak concentrations in internal tissues. In most cases cumulative death rates continued to rise with time, though this was not the case for phosalone, where lethal concentrations were maintained only transiently. Basudin and cypermethrin were much more toxic than phosalone and Mavrik.

TI The Kinetics of Insecticide Toxicity in the Honey Bee.

AB Worker **bees** were treated with topical phosalone (6, 8 or 14 ug), Basudin (diazinon) (0.35, 0.4, 0.45 or 0.5 ug), Mavrik 2E. . .

ABEX Insecticides were applied topically to the thoracic tergites of 20-27 day old honey **bee** workers, in 1 ul **acetone**. The phosalone concentration on the cuticle decreased exponentially, and accumulation in internal tissues was slow (rate constant; 0.18/hr). Deaths began. . .

CT **BEE** *SE; HONEY-**BEE** *SE; APIDAE *SE; **APIS** *SE; MELLIFERA *SE; **BEE** *DM; HONEY-**BEE** *DM; APIDAE *DM; **APIS** *DM; MELLIFERA *DM; HYMENOPTERA *SE; HYMENOPTERA *DM; NON-TARGET *FT; TOPICAL *FT; DOSAGE *FT; MORTALITY *FT; PENETRATION *FT; KINETICS *FT; INSECT-TISSUE. . .

[01] PHOSALONE *SE; PHOSALONE *DM; PHOSALONE *RN; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT; DM *FT

[02] DIAZINON *SE; BASUDIN *SE; DIAZINON *DM; BASUDIN *DM; DIAZINON *RN; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT; DM *FT

[03] FLUVALINATE *SE; MAVRIK *SE; FLUVALINATE *DM; MAVRIK *DM; FLUVALINA *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT; **ACARICIDES** *FT; SE *FT; DM *FT

[04] CYPERMETHRIN *SE; CYPERMETHRIN *DM; CYPERMETH *RN; INSECTICIDES *FT; CONTACTS *FT; STOMACH-POISONS *FT; SE *FT;. . .

[02] DIAZINON *SE; BASUDIN *SE; DIAZINON *DM; BASUDIN *DM; DIAZINON *RN; INSECTICIDES *FT; **ACARICIDES** *FT; ANTICHOLINESTERASES *FT; ORGANOPHOSPHORUS *FT; SE *FT; DM *FT

[03] FLUVALINATE *SE; MAVRIK *SE; FLUVALINATE *DM; MAVRIK *DM; FLUVALINA

*RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT;
ACARICIDES *FT; SE *FT; DM *FT
 [04] CYPERMETHRIN *SE; CYPERMETHRIN *DM; CYPERMETH *RN; INSECTICIDES *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; SE *FT;. . .
 [03] FLUVALINATE *SE; MAVRIK *SE; FLUVALINATE *DM; MAVRIK *DM; FLUVALINA
 *RN; EMULSION *FT; FORMULATION *FT; INSECTICIDES *FT;
ACARICIDES *FT; SE *FT; DM *FT
 [04] CYPERMETHRIN *SE; CYPERMETHRIN *DM; CYPERMETH *RN; INSECTICIDES *FT;
 CONTACTS *FT; STOMACH-POISONS *FT; SE *FT;. . .

L7 ANSWER 85 OF 85 CROPU COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1989-84440 CROPU I Q

TI Effect of Insecticides on **Bees** and Silkworm.

AU Eremina O Y; Roslavtseva S A

LO USSR

SO Agrokhimiya (1989, No. 5, 131-36) 1 Tab. 51 Ref. (M31/AL)

CODEN: AGKYAU

AV No Reprint Address.

DT Journal

LA Russian

FA AB; LA; CT

AB **Pesticide** toxicity to *Bombyx mori* and **bees** (including **Apis**, *Megachile*, *Nomia*, and *Bombus* spp.) is reviewed. **Pesticides** mentioned are; methyl-parathion (Pennac-M), lindane, deltamethrin (Decis), dimethoate, parathion, carbofuran (Furadan), acephate (Orthene), fenvalerate (Sumicidin), carbaryl, cypermethrin (Ripcord, Cymbush), alphasmethrin (Fastac), pirimicarb, phosalone, lambda-cyhalothrin (PP-321 Karate), malathion, oxamyl, fenitrothion, metacil, bifenthrin, cyhalothrin, pyridaphenthion, quinalphos, flucythrinate, propiconazole, endosulfan, pirimiphos-methyl, methomyl, propoxur, chlorpyrifos, fluvalinate (Klartan, Mavrik), bromophos, bromophos-ethyl, dichlorvos, phosphamidon, monocrotophos and permethrin (Ambush).

TI Effect of Insecticides on **Bees** and Silkworm.

AB **Pesticide** toxicity to *Bombyx mori* and **bees** (including **Apis**, *Megachile*, *Nomia*, and *Bombus* spp.) is reviewed. **Pesticides** mentioned are; methyl-parathion (Pennac-M), lindane, deltamethrin (Decis), dimethoate, parathion, carbofuran (Furadan), acephate (Orthene), fenvalerate (Sumicidin), carbaryl, cypermethrin (Ripcord, Cymbush), alphasmethrin. . .

ABEX Repellents such as 2-heptanone and isopentyl (isoamyl) acetate may reduce the danger to **bees** from insecticide-treated plants, but no effective repellent has been found. The effects of the following **pesticides** on silkworm development are reported: dimethoate, Klartan (fluvalinate), fenvalerate, permethrin, Ambush, Ripcord, Sumidicin, Decis, Dichlorvos, malathion, phosphamidon, carbaryl, endosulfan, monocrotophos and cypermethrin. Decis was 10 times more toxic than Sumicidin and 18 times more than Ambush. LD50 values for **bees** exposed to the following **pesticides** are recorded in ug/bee: for **Apis mellifera**: pirimiphos-methyl (0.066), methomyl (0.068), propoxur (0.112), chlorpyrifos (0.115), carbaryl (0.212), fenitrothion (0.310), parathion (0.180 ug/larva), fluvalinate (18.400) and its forms Klartan (9.120) and Mavrik (9.060), and deltamethrin (0.051); and for **Apis ceriana indica**: bromophos (0.603), bromophos-ethyl (0.098), malathion (0.072), malathion technical grade (0.084), quinalphos (0.035), fenvalerate (0.140), fenvalerate technical grade (0.122), and deltamethrin (0.021). Most of the data are relevant to honey **bees**, but some attention is paid to solitary **bees**. For example, mortality rate was 15% in *Megachile rotundata* 48 hr after treatment with phosalone. *Nomia melanderi* was more sensitive to Orthene than **Apis mellifera** and *M. rotundata*, with *Bombus rufocinctus* being the most sensitive. M.

rotundata was more sensitive to chlorpyrifos than honey **bees**,
with *N. melanderi* being the least sensitive.

CT [03] **BEE** *SE; **BEE** *TR; **APIS** *SE; **APIS**
*TR; SILKWORM *SE; NOMIA *SE; NOMIA *TR; BOMBUS *SE; BOMBUS *TR;
MEGACHILE *SE; MEGACHILE *TR; DISCUSSION *FT; SE *FT; TR. . .